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ABSTRACT

The essays in this book reflect some of the major ideas discussed at the Claremont Reading Conference of 1973. Included are such essays as "Reading as Second Language Learning" by Susan Ervin-Tripp, "Feminine Subculture and Female Mind" by Nancy Reeves, "The Home Language of Chicanos as a Medium of Instruction" by Eduardo Hernandez-Chavez, "From Sound to Symbol: A Natural Approach to Reading" by Charles Herbert and Anthony Sancho, "The Teacher as Playwatcher" by Elizabeth Brady, "Reflections on Adult Unlearning" by Luanne King, "The Anguish and Joy of Creating Educational Alternatives" by Mary Giorgi, "Promoting Motivation through Inter-Related Cognitive and Effective Factors" by Stanley Coopersmith and Ronald Feldman, "Beyond MorPhemes and Phonemes: Getting the Meaning from English Spelling" by F. H. Brengelman, "Medical and Epidemiological Aspects of Reading Disability by H. R. Huessy, "Can Reading Problems be Predicted?' by Herold Lillywhite, and "Dyslexia and the Eye" by Eugene Helveston. (TS)

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CLAREMONT READING CONFERENCE

Sponsored by The Claremont Graduate School

THIRTY-SEVENTH YEARBOOK

Edited by
MALCOLM P. DOUGLASS

Permanent Conference Theme:
Reading is the process of making discriminative responses.

Special Theme for the 40th Annual Claremont
Reading Conference:

Reading between and beyond the lines

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TABLE OF CONTENTS

AN INTRODUCTION TO THE YEARBOOK, *Malcolm P. Douglass*..v

READING BETWEEN AND BEYOND THE LINES, *Malcolm P. Douglass* 1

READING AS SECOND LANGUAGE LEARNING, *Susan M. Ervin-Tripp* 12

FEMININE SUBCULTURE AND FEMALE MIND, *Nancy Reeves*......19

THE HOME LANGUAGE OF CHICANOS AS A MEDIUM OF INSTRUCTION, *Eduardo Hernandez-Chavez* 28

AN INHERITANCE OF FOLKLORE: THE BENEFICIARIES, *Virginia Haviland* 37

RECOGNITION OF MERIT AND ANNOUNCEMENT OF AWARD, *Winifred Ragsdale* 45

FROM SOUND TO SYMBOL - A NATURAL APPROACH TO READING, *Charles H. Herbert* and *Anthony R. Sancho* 49

IT'S A POSSIBILITY: HUMANISM IN READING, *George Fargo*....53

THE TEACHER AS PLAYWATCHER, *Elizabeth H. Brady*........ 65

EARLY EDUCATIONAL EXPERIENCE: RESULTS AND IMPLICATIONS, *Cynthia C. Siebel* 73

READING THE LANGUAGE OF TEACHER AND STUDENT IN THE CLASSROOM, *Patricia McNaughton* 87

WHEN DOES READING MAKE A DIFFERENCE?, *Fehl L. Shirley*..93

REFLECTIONS ON ADULT UNLEARNING, *Luanne P. King*........103

THE ANGUISH AND THE JOY OF CREATING EDUCATIONAL ALTERNATIVES, *Mary Giorgi* 110

THE BURGEONING FIELD OF ARTS ADMINISTRATION: COMMUNITY CULTURAL CENTERS, *Brad L. Fry*........ 117

CRITICAL READING INSTRUCTION: RESPONSIBILITY, CHALLENGE, PRIVILEGE, *George B. Schick* 121

NATIONAL ASSESSMENT AND READING BETWEEN AND BEYOND THE LINES, *M. D. Glock* 124

PROMOTING MOTIVATION THROUGH INTER-RELATED COGNITIVE AND EFFECTIVE FACTORS, *Stanley Coopersmith and Ronald Feldman* 129

LEARNING STYLES: CAN WE GREASE THE COGS IN COGNITION?, *Steven R. Wagner* and *John E. Wilde*........ 135

BEYOND MORPHEMES AND PHONEMES: GETTING THE MEANING FROM ENGLISH SPELLING, *F. H. Brengelman*....143

A COMBINATION OF STRATEGIES FOR DECODING, *Kenneth J. Smith* 148

THE PROCESS OF PERCEPTION IN WINE TASTING AND READING, *Peter Dewitz* 156

MEDICAL AND EPIDEMIOLOGICAL ASPECTS OF READING DISABILITY, *H. R. Huessy* 163

FACT OR FALLACY: AN OPEN LINE BETWEEN DOCTOR AND TEACHER, *Clement E. Papazian* 167

RESEARCH IN LEARNING DISABILITIES, *Leon Oettinger, Jr.* and *Lawrence Majovski* 172

CAN READING PROBLEMS BE PREDICTED?, *Herold Lillywhite* 181

SOME RELATIONSHIPS BETWEEN HEARING LOSS AND READING PROBLEMS, *Jacqueline Keaster* 190

DYSLEXIA AND THE EYE, *Eugene M. Helveston* 200

THE CLAREMONT READING CONFERENCE: ITS MESSAGE AND EDUCATIONAL IMPLICATIONS, *Peter L. Spencer*....205

A BRIEF NOTE ON CONTRIBUTORS 216

Introduction to the Yearbook

In the lines of print presented to the reader in this volume, one will find one kind of evidence, or trace, of the 40th annual Claremont Reading Conference, which was held on the campuses of the Claremont Colleges February 9th and 10th, 1973: proceedings in essay form reflecting some of the major ideas discussed during those two days. We trust that there are other traces, of course, including some new, or at least fresh ideas in the minds of the almost 1,200 participants.

The special theme of this particular conference, *Reading Between and Beyond the Lines,* continued the emphasis that has characterized the Claremont Reading Conference since its inception, which has been to further amplify the holistic nature of reading behavior while suggesting educational applications for practical situations. In the holistic frame, reading becomes first and foremost a thinking process. In such a view, a significant but not exclusive form of reading is "thinking with language" in its graphic or printed word form. We are concerned with that form of reading, of course, because of its power in facilitating thinking itself and because, as a consequence, it plays such an important role in life, not to mention school. But there are other symbol systems that have been evolved to "hold down" thoughts just as there are other stimuli in the environment for which readers can create meaning. An holistic view of reading requires one to broaden his frame of reference to include not only a concern for evoking reading abilities with regard for a wide range of "things to be read," but as well to see similarities and contrasts in the different aspects of reading behavior when it is broadly viewed. As a consequence, one may perhaps learn to discriminate between the important and the relatively unimportant in reading behavior while gaining insight into procedures that may be applied in real life situations.

The essays included here are consequently on a broader range of topics than one might expect to find in a volume reporting the proceedings of a "conference on reading." The reader will find some treat the problem of reading narrowly, others are on topics more clearly concerned with reading in its broader context.

It will be of particular interest to many of our readers to call attention to the concluding essay in this volume, "The Claremont Reading Conference: Its Message and Educational Implications," by Peter L. Spencer, Professor Emeritus at the

Claremont Graduate School and founder of the Claremont Reading Conference. Written especially for this Yearbook, it presents the broad view of reading by the man whose vision of the reading process has continued to be such a worthy guide for forty years. To honor his insight and important contribution to the understanding of reading behavior, there has been established a Peter Lincoln Spencer Lecture, to be held annually during the Claremont Reading Conference.

I wish to express here my appreciation to the many people who join together each year in seeing to the continuation of this conference series. Special thanks in this regard go to Mrs. Jean Phelps, the conference Executive Secretary, and to Alpha Iota Chapter of Pi Lambda Theta, an active association now forty years strong.

MALCOLM P. DOUGLASS
Director, Claremont Reading Conference

Reading Between and Beyond the Lines

Malcolm P. Douglass

This year we mark the fortieth meeting of the Claremont Reading Conference; a lot of water has gone over the dam since that summer in 1932 when Peter Spencer planned and directed the first of these meetings. Much has happened, and there have been many changes since that time. Still, some things are not as different as they might appear to be on the surface. One matter that remains much the same is the purpose lying behind these Conferences. That has been to view reading holistically, and by that I mean, to see reading in its broadest possible context, to encourage thinking about its nature, and to derive applications for schools and elsewhere that encourage the better development of reading abilities.

The fact of the continued existence of this Conference is testimony that the original purpose for calling it into being has not been met. If it had, somewhere along the line the Conference would have graciously expired. The simple truth of the matter is, of course, that the problem of reading is very much with us and the holistic idea is still waiting in the wings to be given a serious tryout. Despite all the technological advances—a factor which clouds today's picture as to what is real and what is myth in reading—responses to the problem of literacy in this country remain singularly like they were those forty long years ago. But it is really not just forty years ago that we might talk about. Read if you will a book by a gentleman named Edmund B. Huey who wrote *The Psychology and Pedagogy of Reading* as long ago as 1908. It has recently been published by the MIT Press. You will see that the radical ideas didn't start with 1932. Huey's book, published 24 years earlier than the first of these Conferences, is loaded with ideas that today are still considered far-out, and it serves as an especially good example to demonstrate to us that things may look quite different, but they are not. In school the fact remains, advocates of holistic conceptions of learning and behavior remain a small minority. Just how small, it is difficult to tell. This is because there are many more who agree with holistic ideas than practice them in teaching. In major part, I think this is because teachers have by and large lost control over what they do in the classroom, at least in reading. They have become instead purveyors of curriculums designed in places far removed from their own classrooms and their own students. More often than not, they use "mandated" instructional materials that not only determine what will be taught, but how, as well.

It is truly amazing, when one examines these "new" programs in any detail, how much they are like all that has come before. They are not truly "new" or innovative, at least in the fundamental sense of those terms, since just a moment's examination reveals that lying behind the so-called "new" are some very old ideas which surely are familiar to any teacher. At their base is the notion that reading is a subject in the school curriculum. We teach, or are told to teach that subject matter with the underlying presumption that the mastering of it is *the* premier avenue to becoming a fluent and critical reader. When you come right down to it, of course, there is no agreement as to what constitutes the subject matter of reading. Every set of materials is different both in terms of total content and in the sequence in which it is presented. Nevertheless, the notion remains that one must study reading to read, and that the best insurance against failure is the purchase of, now, very expensive sets of materials which I am sure are bringing great profits to the industry and to the people who write those programs that can manage just a few major adoptions.

We also believe that reading is something that is hard to learn, that it is somehow going against human nature when we set out to teach children to read. As well, we accept the idea that there will be failure. And, we do produce more "problem readers" per thousand population than any other reasonably literate society. At the same time, we teach reading longer, both by the day and by the year, than anyone else. It is really surprising that more people don't yell out, "Stop this self-fulfilling prophecy; I want to get off!"

But, tradition has strong allies as well as strengths of its own. There are consequently some good reasons why holistic conceptions of reading behavior have not been received more openly and given a major try-out in our schools. I will not dwell at any length on those reasons other than to note that in the past forty years, at least, this country has been going through a violent and fearful period. We have been distracted by wars, by internal violence, by shifting moral and ethical codes and behavior. We have increasingly become afraid and frightened of everything, including each other. Little energy has been left to try to bring about change in our schools. Even if the energy has been available, the will deliberately to change the schools has been lacking. On top of that, schools themselves have always been extremely effective in blocking change.

But the most important set of controlling factors is the continuing domination of a traditional point of view about the nature of knowledge and ways of knowing. This in turn is reflected in our views about the nature of reading and how that is learned, views that date back to the Calvinistic teaching of some of our forefathers, and a dour lot they were. In Calvinistic philosophy, reading provided the means by which God revealed himself to the individual—reading the Bible, that is. Anything done in the name of God could not of course be frivolous, or fun, or easy. Ergo, the work-ethic of reading and the beginnings of the idea that reading ran at cross-purposes to human nature (man's natural instinct was toward depravity and sin; since reading was to be done in God's name it must therefore be an activity quite in opposition to natural instinct).

This tradition has had a powerful influence throughout our history, revealing itself in both the advocacy of certain methods of instruction and the principles for organizing teaching materials themselves. More recently, that tradition has been supported by a particular psychological view which not only supports the contention that reading behavior is acquired through the study of a "subject matter," but which lends great support as well to the importance of textbooks and the need for other specific instructional materials in the teaching act itself. Lest anyone argue that psychology has not had an important influence on schools, let me merely point to the ideas about learning and the nature of knowledge contained within behaviorist theory and compare them with the textbooks and other materials that are provided to schools today. In almost every case, it appears to be an instance of "one-to-one correspondence" as the saying goes.

But a major reason why so little movement has occurred in reading remains largely unrecognized, and that, surprisingly, is that we know so very little about it. I grant you that literally billions of words have been written about reading, and thousands upon thousands of research studies have been ground out. But they tell us very little about how one becomes a reader or what reading behavior is like. Instead, they constitute for the most part a polemic telling what should be or what one should do. Only a very small part is truly descriptive of conditions or situations surrounding teaching — the Cooperative

Reading Studies are among the better examples of such data. But even of the so-called "better" studies virtually all are predicated upon assumptions about the nature of the reading process which are certainly wide open to criticism and even attack. However, there is now on the horizon a growing body of information that we may find extremely useful in helping us better understand what conditions appear to be most important in the learning to read process. It provides very specific descriptions of child language behavior, and while it does not tell us how a child learns to read, or even how he learns his oral language, it does at last provide us with the capability for generating inferences. From these inferences we teachers and co-workers with teachers can make classroom applications which in turn can be tested out. This is new. And, if we can discover more about child language and behavior through this kind of objective research—in place of the emotional sort of thing that has dominated the situation up to now—perhaps we can begin to make some observable progress. In other words, this research appears to avoid the bias and potentially faulty assumptions which have characterized previous reading talk. At the same time, it appears to be supportive of another view of learning, namely, an holistic conception rather than the atomistic conception which tradition has provided us so far.

I want to share with you, then, some meanings that I derive from this newer kind of information about reading. Altogether, what I will be saying is that the problem of reading is not in reading the lines as is our usual way of going about the business of teaching. Instead, it is the problem of reading between and beyond the lines simply because reading behavior is apparently not taught directly. Rather, an environment exists—and, hopefully, it is arranged with care and understanding—where reading and other language learnings are encouraged to emerge. This is by way of saying that not only is reading *not* a separate entity, it appears as if it emerges quite naturally as a part of normal human development and that it grows and expands along with other forms of language and knowing generally, if properly nurtured, primarily as a consequence of practice. Like learning to speak and to listen, the ability to read and to write is, in action, a very complex process. However, teaching so that those complexities are mastered seems not to be the analytic, logical thing we have thought it to be.

How can one come to such conclusions? Time is no friend to someone who would question the conventional wisdom and so I can mention only briefly some key ideas that I think are useful in helping me redirect my thinking from more traditional ways. Perhaps they will have some utility for you.

Let me begin, then, with some bits of data which seem to show that reading and writing emerge naturally as part of human development and as extensions of the ability to speak and listen meaningfully. We know that listening and speaking come into being in the first few months of life and that they experience their greatest growth and expansion during the first four to five years, or before the child enters school. *We do not know how the child learns his language;* all we have are the beginnings of descriptions of what he appears to be doing at various stages of development. As the amount of that information expands, we are seeing more and more clearly how adults model the "grown up" language for the child, how he seems, voluntarily, to practice what he is learning, how his language emerges and grows. We see each child putting together combinations of words in ways he has never heard before; without ever having to be taught—in fact we find we cannot teach the child to modify his oral language, apparently only he can do that. Our conclusion is that whatever is happening is very complex, that it appears to be internally directed, and that he utilizes clues from the environment in a fashion that cannot be clearly explained. In other words, the child is doing his own thing in a way that is unique to him. At the same time, we are beginning also to see some broad patterns in learning to speak. Still, the growth of listening remains very obscure, partly because the whole hearing apparatus is hidden from direct observation and, because, like reading print itself, it is a silent, interior kind of activity that will always be beyond our ability to describe exactly simply because it will always be impossible to establish common standards for the purpose of making comparisons.

Many linguists argue that this proclivity for language is innate. There appears, in other words, to be an inborn language capacity, and it is certainly true that all hearing children who grow up around other people learn to speak and to listen. However, the thing that is peculiar or unique about humans in relation to other animals is their ability to string words together into meaningful statements and to manipulate those words in strings of language symbols so as to create an infinite number of different meanings. Let me repeat: just how that manipulation occurs, just how the child masters the language rules that govern what goes with what, remains a mystery. He appears to do it very much on his own, with some help from his friends, but how he utilizes that help we do not know.

Why it is we would think that such symbol-using should stop with oral language also qualifies as a mystery. It would appear that the human organism is in fact incapable of stopping, or delaying significantly, comprehension of other symbol systems, including printed words and written words. The only major restriction would seem to be opportunity. And, as a matter of fact, we see many pre-school children who very early on engage in something that might be called "pretend writing" as a precursor to what you and I might call "real writing." Just as the infant presages the production of "real words" by babbling, it is not surprising that we might see two and three year olds producing squiggles which can be repeated, or "read" back, with amazing accuracy. Likewise, we see very young children "pretend reading." Not all children engage in such processes. Whether they do or not seems to depend upon such things as the availability of pencil and paper, opportunities to see others writing, or reading, and possibly most important of all, being around other people who recognize the effort as something worthwhile that is noticed and praised.

I am asking, then, on what grounds do we separate reading from other language activity and, in fact, from other ways of knowing? Man is a symbol-using and symbol-creating animal. And as the child is father to the man, it is not surprising that, by the time the child reaches school age, he is already speaking fluently and beginning to develop the ability to create meaning for print (which is reading) and to devise symbols to stand for his oral language (or writing). There are those who will argue that the ability to identify the Cheerios box, or Channel 7, or any other common symbol around the house, is not reading. But to exclude this ability as a beginning stage of reading is like demanding that we only think of speaking as when a child can put two or three or more words together. We commonly consider speaking to be at its beginning stages when a child can utter one word as an expression of a holistic meaning—it is called holophrastic speech. Why not accept this definition for beginning reading when the child responds to one symbol (like Cheerios, to mean breakfast, good, hungry, now, etc.)?

If we can accept the holophrastic response of a child to a printed stimulus as a legitimate first stage in reading, then we can see that reading in its conventional sense begins for all children around the age of three or so. And we can perhaps get used to the idea that responding to printed symbols is quite a natural event in a child's life. It might help us also to explain how it is possible for some children at three and four, with a minimum of instruction, to become quite competent readers and writers, given their intellectual maturity.

Lying behind what I have been saying, of course, is the question: "Is it possible to teach reading?" I think the answer is: "Only indirectly." Just as the linguist would say that it is not possible directly to teach a child to speak or listen, then, if there is any truth in the idea that reading and writing are extensions of the oral language, the development of those abilities would occur in a very similar circumstance. As I have pointed out earlier, we have very little data to "prove" that teaching the subject matter of reading in fact leads to proficiency in reading. We have assumed a great deal in this regard without ever seriously questioning whether cause leads to effect. For example, Clymer* and others have done a great deal of research into the "utility" of phonics generalizations (but not into the ability of the child to utilize generalizations in "unlocking" new words). He does point out, however, that many of the generalizations teachers' manuals include seem only to be "useful" *after* the child can already say the word! It would appear highly possible that even those few generalizations which have wide applicability will be applied only in those cases where the child already knows the word. In any case, given the great variation in word structure vs. pronunciation, it is very clear that the learning of phonic generalizations could be applied only with respect to the smallest fraction of one's vocabulary. Without commenting on the efficiency of such activity, it seems quite clear that the child is using other strategies to decode words, and we know next to nothing of what those strategies may be. At the same time, we elect to teach strategies based on an adult logic of what the problem of reading appears to be in the face of further evidence from such people as Piaget and other cognitive psychologists who point to the fact that child logic is something quite different from that of the adult. That one form of behavior (reading) emerges as a consequence of certain other kinds of learning (acquiring knowledge of phonic gen-

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*Theodore Clymer, "The Utility of Phonic Generalizations in the Primary Grades," *The Reading Teacher*, January 1963, pp. 252-258.

eralizations, learning the alphabet, etc.) is a matter that must be seriously questioned. Imagine the outcome, if you will, were speaking to be taught as reading is usually taught. The result would very likely be speaking-impaired people would it not?

Let me bring out two other examples that suggest children appear to learn to read by rather indirect methods as far as we teachers are concerned. First, it is the experience of every remedial teacher I know that children who somehow do make a leap forward in reading—this usually occurs only after months and even years of very intensive instruction—make that leap apparently not as a consequence of any special bit of information or acquaintance with rules, particular skills, and the like. Somehow, such children manage at last to put it all together. There may have been a critical piece of information, but we rarely can say we know with any surety what it was. Thus, again, the question of efficiency: just what do remedial procedures produce per hour of instruction and what else is there in the situation that affects the result? We also find that some children blossom when special medicines are prescribed, such as thyroid medication. Progress in such cases can only be described as "spontaneous," since it is usually observed to have happened without any change in instruction.

A second batch of evidence about the spontaneous nature of reading growth is contained in the experience of other countries. I have recently had the opportunity to study reading programs in several foreign countries, including Russia and England as well as Norway. Through my students and colleagues I've been able to learn about experiences with reading development in a number of Asian and African nations. The fact is that no country with a comprehensive school system experiences the difficulties we do. Most seem to find beginning problems in about five percent of the school population. This figure is reduced to one or two percent within the first few years of schooling. This is the result in the face of the barest minimum of instruction. In Norway, and I believe this holds true for the other Scandinavian countries, directed teaching of reading lasts at most for two years, and usually one. In the USSR, children enter the equivalent of our elementary school already reading (they have an extensive educational program for younger children and efforts to instill this ability appear to be concentrated in the fifth to sixth year of that experience). In Vietnam and Korea most children learn to read at home, before they go to school. In

Sierra Leone, the problem seems to be finding something worthwhile to read rather than learning to read itself.

The meanings in these situations are many and varied. Let me mention only a few. First, there is no continuation of "reading instruction" as we know it beyond the point of reasonable fluency, whether learning takes place before formal schooling begins or at its very outset. After that, there is a heavy use of books, but these are books that relate to the subject areas of the curriculum. Reading ability grows, evidently, as a consequence of practice in reading about things, in reading for the joy of it, or reading the great literature in the country's heritage. Note, too, that as far as normal instruction itself is concerned, the methods of teaching are old-fashioned and the instructional materials are minimal. We would find those standards unacceptable here. So, just as we found with the Cooperative Reading Studies, it appears that the methods and materials used make little difference: whole word procedures work as well as phonics, in other words. There are some things that I do think make a difference, however, and which may have special meaning for us in understanding our "reading problem." One is that formal instruction in reading usually does not begin until a year or two later than it does in the United States. I would have to revise that to two or three years where our kindergarten programs have become involved in formal instruction. The modal beginning age where formal instruction is very rigidly applied is the 7th year. Also, it is important to note that the cultures with the least amount of difficulty are the more homogeneous ones. There, values are more completely shared between child, teacher, parent, and community. Enculturation is a powerful factor, but so is the commonly held belief that all will learn to read, in due time, and probably sooner than later. "Failure" is not a concept Norwegian teachers know about as far as their classroom experience is concerned, nor does one find it in terms of early developmental problems, much, if at all, anywhere else. We seem to have a corner on that idea. So, the self-fulfilling prophecy seems to be in effect wherever one goes.

I mention these things mainly to suggest that, here is one more set of examples demonstrating that reading probably emerges very spontaneously. If children are old enough to think logically—this begins at about age 7 or 8—we can probably utilize some of the "subject matter" of reading to get them started if we wish although that is not necessary. In any event, once started, the process of reading evidently develops primarily as a function of practice.

It is my belief, then, that the reading curriculum in the school is much broader than we commonly assume. What we call reading instruction may in actuality be only a very small and not critically important part of the reading curriculum. It would then appear that extending the daily or weekly time devoted to the formal teaching of reading may be accomplishing just the opposite of our intent by lessening opportunities for planning more potent learning experiences. It may also be true that our unwillingness to let the culture of the community be represented in the school, except where that community represents the dominant middle-class, puts such a strain on differing value systems that it will be impossible for a child to learn to use his natural inclinations toward symbol systems. Thwarting innate structures, if they do indeed exist, can possibly lead to some very serious problems.

If what I have been saying makes any sense at all, then it follows that the formal reading program ought to be the least expensive rather than the most expensive effort in the school curriculum. This is because it does not require fancy materials and the formal program itself can be shortened greatly. By developing reading ability through the content curriculum, we would be freed from spending such exorbitant amounts on packaged programs and other pieces of machinery and equipment which have been designed to teach the subject matter of reading. A wiser place to put our resources would be into school libraries and the content curriculum. We would also need to buy a lot more blank sheets of paper and we would need more pens and pencils. There would be less time spent on correcting workbooks and grading other tests but more time in reading what children were writing and talking and reading about. Teaching itself would be harder work. And, we could still state our objectives. But, rather than limiting ourselves to such impossible dreams as: "The child utilizes phonics generalization a, b, c, or d to unlock new words," we would be searching for the youngster who "reads independently," "selects a book to keep at his desk to read when all other work is done," or who "uses research materials, such as the classroom encyclopedia, independently." Those are not impossible objectives—they are realistic ones. And I think we will see how valid they are as information about reading behavior and the nature of the reading process becomes more adequate.

In my opening remarks, I said that one of the major purposes of this Conference was to see reading in its broadest possible context. So far, I have largely limited that term to mean reading in the sense of creating meaning for words, usually as they are found in their printed or written form. That is actually not the broadest possible context for viewing reading behavior. On further examination of that claim, it can be seen that the generic meaning of the term "reading" has to do with the process by which an individual creates meaning for anything in his environment for which he is able to develop an awareness. Because reading is a silent, interior act, the exact nature of the stimulus, *e.g.*, printed words, gestures, or what have you, is irrelevant to reading. As one tries to think how it is that a person can learn and then remember forever that a word stands for a certain set of ideas —all of these things learned and remembered without ever having to think about the processes involved in remembering —he becomes aware that getting the hang of a particular symbol system or complex of signals is not the important thing in reading at all. Experience, including of course the ideas that come into being as a consequence of experience, is the central aspect in reading. And while language as we conventionally view it is a most powerful tool for thinking, it is not difficult to imagine how other means for knowing, such as reading a television screen, or works of art, or other "things" in the environment, are also powerful in learning, if we can learn to read them critically. We can also perhaps see that symbol systems appear to be quite easily apprehended once experience is appropriate to the kind of reading that we wish to engage in.

I think there is great power in this very broad perception of reading behavior. It is a big idea, one that requires lots of time and space to elaborate upon with any degree of fullness.

The "literature" of reading conceived in this context is to be found in many different places. Linguists tell us of language development, social scientists of the milieu that affects values, attitudes, economics and the like. From the arts and literature we find the guides for setting standards of excellence, and from medicine and its allied arts and sciences we learn of the optimal functioning of the organism itself. Educationlists will, I believe, find these to be primary sources for understanding reading behavior, for therein lies the information we can use to read between and beyond the lines of reading.

Reading As Second Language Learning

Susan M. Ervin-Tripp

All languages consist of at least three levels, the level of content, the level of sensory expression—which may be visual, tactile, or auditory—and the level of structure which systematically relates meaning to surface. In the youngest child this level of structure is non-existent, in the sense that content is directly expressed in a simple mapping. Two kinds of learning of the relation between the outer levels must occur. One kind clearly involves rote mapping, as in the case of vocabulary, which is productive only in the sense that semantic rules allow productivity. The second kind is rule-learning, which is necessary at the level of semantics, grammar, and phonology. Much of the recent literature on child language is filled with examples of the extraordinary regularity of child-produced rules, and children's pre-school spelling provides excellent examples of the same kinds of simple generalizations.

How is the child to detect, to discover the relations of sense and meaning which in adult speech are indeed complex? It seems clear at the outset that certain simple preconditions must exist. The child must attend to, or orient to both the modality of the sensory signals and the specific utterances themselves. The child must understand the meaning of the utterance. Many sentences he hears are meaningless to him, and probably useless to language learning. At first, of course, this requirement is met by the attention of the speakers around him to conditions in his immediate milieu. If they talk about the here and now, he can understand, but not if they talk about philosophy or taxes.

If the child is to match sensory surface with meaning, he can learn most readily if they are simultaneous or at least close in time. If not, he must hold one or both in short term memory to make the comparison. The features which survive best in short term memory turn out to be learned first by children—the salient phonetic contrasts, the segments that typically begin or end sentences, like question words or suffixes (in suffixing languages like Russian and Hungarian).

At first, the units of the match between the sensory surface and the meaning are unlike adult units. Both meanings and sound patterns may be general or global. Then we find segmentation occurring, and gradual differentiation into more complex contrasts and rules of patterning. Soon words with alien sound sequences like "tlid" and "psith" are not easily stored, even if the segments are familiar.

Meanwhile the pattern features of syntax begin to develop. Possessive structures, locations, request forms appear early in all of our studies. They develop specific grammatical patterns, like the possessive sequence, "mommy dress," or "my bathrobe," which may be so tightly structured that even attributes cannot break it up; so we find "pretty mommy dress" and "fuzzy my bathrobe," and "new daddy shoe." In English and other languages with order regularities simple strategies may develop. Around four, children interpret animate nouns preceding verbs as agents, even in sentences like "the cat is chased by the dog."

The order of development in language is not just a matter of what needs to be known first. In addition, the child is limited at first in his knowledge of the world, so he cannot understand conditionals and he cannot interpret the temporal content of a "when" question. As Piaget has shown, some of these conceptual developments simply cannot be accelerated. In addition, the task of interpreting or producing sentences itself has limits in terms of the amount of information the child can cope with at once. Thus at first sentences may be limited to a demand and its complement, as in "more juice," an essentially two-unit utterance. Some evidence of this increasing stress of longer utterances is the kind of phonological regression we find when a child puts a word in a well-practiced but new frame, e.g. "daddy" in a three-word sentence reverts to "dadda." Of course as language learners we have all experienced this phenomenon. Increasing complexity of one aspect of a produced utterance can depress performance in another. In imitations, we see most clearly the child's limits, since there is a sharp increase with age in the child's ability to imitate utterances of greater length even when not understood.

Second language learning. In the past, it has been commonly assumed that second language learning bore little similarity to first language acquisition, both because some critical biological stages may have gone past, and because the child is already master of many elementary skills.

When a child learns a second language, of course some of the work has been done. If the second language is in the same modality, he already orients towards the signals and has achieved some appropriate schemata and segmentation for them. In children of deaf signers, on the other hand, orientation towards sounds may not be present so that even a hearing child, when he learns speech as a second language, must develop that orientation *de novo*. He must learn that sounds carry information of value to him.

As in first language learning, the child must match what he hears with a situational meaning that is simultaneous. The first sentences of children learning foreign languages are often highly context-imbedded, e.g. hello, quit it, get out, leggo, let's play.

As in first language learning, short term memory selects material for survival in auditory learning better from the beginning and end than from the middle of sentences. In my research on the learning of French by English speakers, I found that sentence-medial pronouns were not understood, and were omitted in imitations twice as often as sentence-initial or final pronouns. Most important perhaps, if as in first language learning he hears language in a situation where communication matters and there is a lot to talk about, he will learn very fast indeed, far faster than a younger child.

Probably in learning the semantic and phonological structure, the course is rather different in second language acquisition because units and features are already selected. Natural ranges of generalization are already available for mapping on the new language. Where there are differences "interference" occurs, but languages in the same modality are far more alike than different. The most bizarre semantic interferences we have seen have been in the language of a deaf signer learning English.

Like children learning their mother tongue, children use very simple syntactic strategies at first. For some months, English-speaking children learning French interpret all animate nouns preceding the verbs as the agent, even in passive sentences. They do this years after that pattern is no longer visible in interpreting English passives, but we know that it is still available even in English when semantic anomaly or syntactic complexity forces them out of their usual strategies at eight or nine.

When language is learned at a later age, the greater cognitive development and better short term memory provide a distinct advantage. I found children learned gender and number agreement patterns in French more quickly with each year of age.

You may be surprised at the view that second language learning is easier, by far, than first language learning. Of course, it is possible to inhibit or destroy the natural process of language learning by poor instruction. We can spend so much time singing that the language is never used to communicate meaning. We can remove language from scenes where the desire to communicate is compelling. We can force children to speak before they are confident of their understanding, tell them they are wrong so often they prefer silence. We know from first language acquisition that reinforcement contingencies simply have no effect on the rate of change in well developed structures, and that children will change spontaneously without any correction even when no failure to understand them has occurred.

Reading and second language. We usually think of reading as an appendage of spoken language. An African Moslem may be able to render the Koran aloud by assigning phonemic values to the letters, but cannot understand, just as I read Serbo-Croatian to my sister-in-law who can understand speech but not writing, and she tells me what it means. In the other sense of "read" it is theoretically possible to understand a language you can read but not speak, as some deaf must do who have minimal speech training.

If we return to the learning conditions postulated above, we find that first the child must orient to the sensory modality. The speech modality has interested a hearing child since birth, but he has no immediate reason to orient to the written word. If orientation arises from evidence that the modality signals valuable information, then reading to children may not merely promote fluency but create the attentional preconditions for learning.

When children are looking at words they must simultaneously understand the meaning. In the case of signs on the street, labels on cans, store signs, the connection of word and reference can be easily grasped. But the meaning of the written word is normally hard to convey since it does not arise from the ongoing situation of the child, as does the meaning of speech. Pictures attempt to replace the situation in conveying meaning. Another way is through the oral sound of the words, hoping that the sounds will generate meaning to the child who can then tie the meaning to the word. If the function of pictures is to help children match meanings with words, how odd it is that we correct children who do this, who look at a picture of a hen and say "chicken" when the printed word is HEN.

How does the child get the meaning and the reading into simultaneous occurrence? It is clear in watching new readers that their eyes meander everyplace. The teacher has less control over eye orientation than he has over auditory attention. Perhaps the attention-drawing methods of television can surmount this problem, or the device on Omar Khayam Moore's teaching typewriter, which produced an oral response to the child's typed word. It seems clear that the simultaneous exposure of vivid meaning and orientation to the signal is a significant advantage for the auditory modality. In classroom reading instruction this difference may carry some weight.

In one respect, the reader has an easier time. Primers have already done syntactic simplification for the child. In fact it turns out first grade primers are a great help in second learning of oral language too. The units, in addition, have already been segmented for the child. The word, however, is not necessarily a spontaneous natural unit, especially in the case of some function words. I found, for instance, that non-literate Navahos were much less likely to have a concept of a word in Navaho than Navaho speakers literate in English. Reading taught them the concept of the word. For many children, the letter mapped on a phoneme relies on a unit they have not yet discovered. For them the CV syllable may be more natural.

Of course the child does bring to reading a lot of knowledge. He brings his knowledge of the visual world, his knowledge that left-right orientation of objects is irrelevant except for dinner knives in place settings. That causes him to confuse b and d, and even p. Children seem to read upside-down as easily as they recognize each other upside-down.

It is usual to emphasize that in reading, the new language is mapped onto a language that is known. The mapping is not quite like the similarity of French and English, which is also a help. The most conspicuous mapping is onto the abstract phonology, or as children assume, onto the surface phonetic categories. That relationship needs to be well understood by teachers. It has been shown, for example, that in the third grade the better readers were those whose first grade teachers had high phonetic aptitudes. But that mapping is complex, not as simple as children at first assume.

Punctuation illustrates the lack of such a simple map. The question mark identifies neither a phonological nor a grammatical entity in the child's knowledge, but a pragmatic unit, an utterance demanding an answer. It is clear from children's problems in both reading and producing commas, periods, and syllabification that rules for new units have had to be learned.

At a more familiar level we see the children's assumption of simple mapping in their use of phonetic similarity as a basis for laying the English nine vowel system and its diphthongs onto a five letter set. Children have no way of rationalizing the relation of RIP and RIPE at all, since the vowels are completely dissimilar, and must learn them quite by rote. But even in cases such as the past tense where they have a productive morphological rule already, they use a low-level phonetic mapping in spelling quite often, in spelling GRIPT and ROBD.

Children learning to read in a second alphabetic system may reveal extraordinarily fast transfer. In the case of an English-speaking child learning to read French aloud, the problem is merely some simple replacement rules. These, it turns out, are very quickly learned by children quite independently of reading, as a set of phonological correspondences, so that within a month of hearing French for the first time a child may know that "putter" would be pronounced "patair" by a French speaker, with a uvular R at that. The implication is very clear that Chicano children whose Spanish is dominant could learn to read first very easily in Spanish, and indeed should.

The phrase "word attack skills" aptly describes what we keep these phonological mappings onto spelling for. In most of the rapid reading we do such phonological correspondences probably play little or no role. In both oral comprehension and reading of skilled learners the effect of the semantic features corrected by some cues of syntax is not accomplished by a simple linear reading of sentences. Scanning patterns show that linear order is not normal. Indeed we know that the simple mapping of letters onto a phonological level would be just far too slow.

In fact the modality differences between speech and reading may lie for one in this possibility of rapid sampling scanning and the need for quite new strategies not tied to phonology. Another important difference is the self-timing of visual intake, allowing slowing down with difficulty in processing. Listeners can't do that. In another sense, pointed out long ago by Vigotsky, reading is quite different from speech. He pointed out that while oral language is often context-bound and we can predicate without specification, writing calls for imagination about the communicator as well as the reference situation. For this reason the style and content of written discourse is very different from speech, and must itself be learned.

We can, just as in second language instruction, retard learning to read. We can teach it in an artificial and test-like situation where the communicative value of reading is lost. Or we can encourage children to send notes to each other to communicate, even employing, as in the British system, word cards to let them do their own syntactic ordering. We can correct children who read aloud and understand the meaning, but substitute synonyms, and thus punish them for their understanding. We can fuss about pronunciation, worry about bin vs. ben, and embarrass children about their home language. However, it is my impression from studies of both first and second language learning that the language ability of children is so great that if there is something to be communicated they will nearly always learn how to do it.

Feminine Subculture and Female Mind*

Nancy Reeves

When I was a small girl, I used to spend the summers with my San Diego grandmother. She had a carved, old world weather house that fascinated me. It had two figures which emerged alternately as barometric indicators. Since the climate in San Diego in the summertime is fairly constant, I only saw the little man. "Grandmother," I would ask, "where is the little woman?" And my grandmother would answer, "The little woman is in the house where she belongs." "Grandmother," I would persist, "when will the little woman come out of the house?" "The little woman," responded my grandmother, "will come out of the house when there's a change in the weather." I am here today because there's been a change in the weather.

Fundamental Assumptions

I do not intend to make a speech. Rather, I thought it would be interesting for you, as educators, to accompany me on the intellectual journey I followed to arrive at the conclusions I'd like to share with you today. I began with a passage from Alfred North Whitehead, who counseled: when questioning the ideas of an epoch, do not focus on those positions that are explicitly defended. Rather, he said, "There will be some fundamental assumptions which adherents of all the variant systems . . . unconsciously presuppose. Such assumptions appear so obvious that people do not know what they are assuming because no other way of putting things has ever occurred to them."(1)

I puzzled about this concept for several months, trying to find the fundamental assumptions about the role and capacity of the sexes which adherents of all the variant systems unconsciously assumed "because no other way of putting things has ever occurred to them." One day, I was reading a journal of anthropology and came upon an article dealing with "somatomancy" or prediction from some facet of morphological structure. This described systems like phrenology, where prediction is based in the protuberances of the skull, or like palmistry, where prediction is founded in the lines of the palm. That is, traits are divined from somatic indicators.

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And, suddenly, I woke up and cried: That's it. All the variant disciplines make forecasts about the sexes on the basis of their genitalia! Women are assumed to be this way and men are assumed to be that way on the basis of their reproductive organs! Then society assigns prescriptive roles on the basis of those underlying assumptions!

This has resulted in the division of our world into two hemispheres: his and hers, the sex that thinks and the sex that feels, with the females assigned to the private and the males assigned to the public, and never the twain shall meet (except perhaps in the bedroom, but I'm talking about another kind of meeting.) Or, in the language of the folk culture as expressed in "My Fair Lady," "Women are irrational; that's all there is to that. Their heads are full of cotton, hay and rags."

The next scholar I turned to was Albert Einstein. He was once asked, "Professor Einstein, how do you make your discoveries?" And Einstein replied, "I challenge a basic assumption." I decided I would challenge the basic assumption of biological determinism that characterized all the variant systems, the notion of somatomancy in relation to psychic traits and genitalia. Of course, I am not the first to do this. I am in the tradition of Sarah Grimké who, more than a century ago, said, "Intellect is not sexed." But I think there is a sense—and this is the serious part of today's exploration—in which it is possible to define a female mind. And I think that the society as a whole accepts that definition.

Female Mind

But how does this female mind develop? I have said that anatomy is not destiny, that bonding of mental traits to genitalia is an assumption I intend to challenge. What then does determine the female mind? I think growing up female implies the internalization of a set of values, perceptions, codes and qualities that subvert the reasoning faculties. And this means that biography may be destiny. I believe we are programmed by our preoccupations, that we are what we think all day long. And it seems to me that women encased in the feminine subculture, with its tribal duties and its hedonistic imperatives, with the seduction of creature comforts and the terrible temptations of vicarious living, are programmed into a system antithetical to rigor and reflection. (You are loved if you're inconsistent. Why then should you be consistent?) Women are products of what they do and what they do not do in the matrix of their assigned place.

Feminine Subculture

I therefore posit a female mind specialized to sex and service in the milieu of the feminine subculture. But what do I mean by the concept "feminine subculture"? I began with the search for a definition of the term culture. Oscar Lewis, a contemporary anthropologist, has written that culture implies a design for living which is passed down from generation to generation. Well, I reasoned, certainly the design for living passed down from generations of mothers to generations of daughters is specific enough to come within this definition. I then went further and concluded that there is a distinct feminine subculture within which women conduct their lives and which determines their reality level. This means that even critical minds, submerged in that context, tend to be affected by the range of established possibilities, for we have difficulty seeing something which is outside the range of established possibilities. Now in the feminine subculture we all know that the range of established possibilities has been narrowed to the intimate, the sensory, the detailed, and the personal. Ignorance is applauded as something charming and childlike. Intellectual endeavor and introspection are frowned upon as a kind of mental transvestism.

Culture and Cognition

But what is the process by which living in the feminine subculture affects cognition? This question really asks: How does the gender learn its role? Now it happens that, for all their other differences, most scholars agree that the process of gender typing develops rapidly in the early years and is firmly established by age three or four. Thus most female individuals enter the sexual ghetto at an early age and remain in it for the rest of their lives.

The next question I asked myself is what happens when a person conducts her life in a narrow channel? Jean Rostand has written, "A person too early cut off from the common interest of men is exposed to inner impoverishment." I reasoned that to live in the feminine subculture is to be cut off from the common interest of the human race, and that females, as a sex, are, in consequence, victims of inner impoverishment, deflected from the habit of consciousness, and in continuous flight from wonder. And wonder is the beginning of cognition.

The theory behind this comes from the sociology of knowledge which suggests that the ideas and sentiments which motivate an individual are not private matters. Rather, human units, in this case female human units, find themselves in an inherited situation complete with pre-formed patterns of concept and pre-formed programs of conduct. This means that at both levels—the level of thinking and the level of doing—we are, to a significant degree, preprogrammed. The psyche, instead of developing as an individual matter, is affected by the crystallizations of the group and becomes part of the given. This implies a kind of ethnocentrism, the internalized view becoming the total view. And there is an implied taboo against all other views. The individual tends to filter out, not necessarily as a conscious process, alternative views. Adorno puts it this way: "Sanctioned illusions allow a dispensation from comparison with reality." This means that, within the cocoon of the subculture, error creates a reality of its own. The result is ecological inequality for women. (I'm using this term in the sense of the relationship of the individual to the environment, and suggest that the sanctioned illusions of the subculture stunt the hereditary potential of females in our society.) To sum up, there is a contamination of psyche and a deflection of biography as women adjust to what is expected of them. This distorts attitudes and processes requisite for first class reflection, and culminates in what has been called "a trained incapacity to deal with problems of the mind." It isn't that the feminine subculture tempts women to turn away from effort and profundity. Rather the feminine subculture develops a trained incapacity to summon effort and to concentrate deeply enough to attain profundity, for women are applauded if they don't and penalized if they do.

Karl Mannheim, an authority on the sociology of knowledge, has written that opportunity for relative emancipation from social determinism depends to some extent on the degree of insight into that determinism. Since it is my thesis that the complex of social ideas designated as appropriate for women, and the subculture which transmits them, tend to be determinative, I propose to analyze the qualities emphasized by that subculture and their import for cognition.

Thought Itself Is Inappropriate

The first tenet of the feminine subculture has already been suggested: thought itself is inappropriate for a woman. What would impel a female to become an intellectual when she is not supposed to think? In the old language, thought addled a woman's feeble brain. And, more recently, women were advised: "Don't worry your pretty little head about that!" Today the message is somewhat modified. It goes something like this: "Those terrible, aggressive men have spoiled the world. Your pacific instincts are so much more valuable than concrete, cold analysis. Be intuitive and save the planet." Virginia Woolf, reacting to this kind of reasoning, has exposed its specious nature for all time. "But a desire to worship woman as a higher moral influence tends, in real life, to restrict her freedom almost as much as a consciousness of her inferiority."(2) Whether the denial of cognitive ability is voiced with positive or negative valence is then not material to my thesis that the social model for woman implies no capacity for clear thought. "My words in her mind," wrote James Joyce, "cold polished stones sinking through a quagmire."(3) This is ratified by philosophers, as for example, Hegel: "Women may be educated, true, but they are not created for the higher sciences, philosophy and certain branches of art. . . ." He goes on, "When a woman stands at the head of a state that state finds itself in danger. They act . . . according to chance whim and chance fancy.(4) And it is ratified by psychologists, as for example, Helene Deutsch in her classic work, *The Psychology of Woman*: "For intuition is God's gift to the feminine woman; everything relating to exploration and cognition, all the forms and kinds of human cultural aspiration that require a strictly objective approach, are . . . the domain of the masculine intellect, . . . against which woman can rarely compete."(5) So watch out when they tell you you're so intuitive.

The Pattern of the Private

But the model not only projects an image, it imposes a pattern: the pattern of the private. This is, moreover, a pattern of exclusion for it assigns to females limited familial reality as the total spectrum of living. Only males are supposed to deal with the public world of production and politics. This is important respecting cognition for, in the words of Hannah Arendt:

> "To live an entirely private life means above all to be deprived of things essential to a truly human life: to be deprived of the reality that comes from being seen and heard by others, to be deprived of an 'objective' relationship with them that comes from being related to and separated from them through the intermediary of a common world of things, to be deprived of

> the possibility of achieving something more permanent than life itself. The privation of privacy lies in the absence of others; . . . it is as though he did not exist." (6)

Women in the private hemisphere are socially invisible and socially irrelevant. This bears on intellectual capacity for, according to Harry Stack Sullivan, the self is composed of the reflected appraisals of others. And, in the formulation of Ruth Benedict, no individual can arrive even at the threshold of potential ability without a culture in which to participate. Women are thus led to the feminine subculture and to the development of those abilities which are viable there, abilities, moreover, which the wider culture does not value. An interesting sidelight on this is that women tend to depreciate in themselves the traits which the wider culture does value. These traits, noted in a study by Jean Lipman-Blumen, include "perseverance, the ability to work under pressure, ambition, competitiveness, physical stamina and realism." (7) But the pattern of the private is relevant to the female mind not only in terms of traits developed but also in terms of activities imposed: the kinds of things that are supposed to fill up her life. These include an agenda of buying and bedecking, of preening and procuring, of gracing and garnering, of focusing on what has been called the "fatal etcetera of things" and what Edith Wharton has termed a "life-long mastery over trifles." In contrast, thinking, according to Buckminster Fuller, "is the result of removing irrelevancies, a few at a time, selectively, until only the relevant remains." (8) But women are taught to grasp irrelevancies. In this sense, higher levels of consciousness are not freed for challenging tasks and the grammar of existence is limited to the inessential and the self-evident.

Distraction and Discontinuity

Man is supposed to stay on one track. Woman is supposed to run along a series of little tracks. The result is that the feminine subculture majors in distraction and discontinuity. By contrast, in serious thought, the problem one seeks to solve must be continually in focus and reflection concerning it must be intense and concentrated. But women can't think of something all the time. They have to watch the washing machine. They are not supposed to have what Paul Valéry has described as an undistracted center of being. Rather, in the words of Tillie Olsen, "Women are traditionally trained to place others' needs first, to feel these needs as their own . . .

their sphere their satisfaction to be in making it possible for others to use their abilities." And she concludes, "Unused capacities atrophy, cease to be."(9)

Rigor, Science, and the Sexual Ghetto

But in order to think you have to know. One must think about something. Here the narrow range of feminine learning, which has kept women outside the rigorous disciplines, means that they are often "Without the hard little bits of marble which are called 'facts' or 'data' necessary to compose a mosaic."(10) For to be an original thinker—and now we're talking not only about thought but about original thought—means to bridge two matrices, to span two orders of ideas not formerly connected. Information is a prerequisite; one cannot join matrices one does not know. This is critical in relation to the tradition that has kept women isolated from scientific thought and scientific method for we live in a world which "is penetrated through and through by science. . . ."(11) Animals experience slow evolutionary change by virtue of biological mutation. But our species has been able to speed up change through the marvellous organ of the brain. This is mutation, in a sense, since it modifies the relationship of species to environment. But women, by and large, do not understand that alteration and it means they are signed off from their civilization, still roaming in a narrow radius when the contemporary sweepout reaches to interstellar space, still looking at reality through the pre-scientific windows of an earlier age.

Conservatism and Docility

Further, the conservatism and docility that the feminine subculture imposes on women incapacitates them for another prerequisite of significant thought: that boldness which dares to transpose the given. If you watch little girls, you will see how they are invited, very early on, to engage in patient effort at the expense of originality. They are, moreover, maintained in such ego uncertainty that skepticism does not develop. Instead, there is undue confidence in the "expert" especially the expert on women. (Anybody can be an expert on women. Everybody either knows a woman or is a woman. Result: instant expertise.) But for significant thought one must have that boldness which dares to question accepted patterns of ideas. There is a sense in which if you've been taught not to be bold you've been taught not to think. And I believe women have been invited to engage in imitation not innovation. They censor themselves even before they try on any new thinking cap which would place the same bundle of data in a new system of relations.

Changing the Reality Level

In the current stage of feminism, with its efforts at consciousness raising, there has been an attempt to make women aware of the feminine subculture along with its snares and delusions. But the impurities of conditioning in that matrix cannot be exorcised by consciousness raising alone. After patterning is recognized, programming must be altered. After consciousness raising comes consciousness changing. The process is a challenging one—but it can be achieved. One approach is suggested by Marshall McLuhan:

". . . one has to get outside the environment or sensory models of one's culture in order to understand anything at any time . . . . because the natural form of culture is to brainwash all the members of that culture. Anybody who is adjusted to any culture is brainwashed. . . . One of the quickest ways of discovering the nature of your own little prison or trap is the speed of succession as you move from one (culture) to another, almost like the frames of a film; then you suddenly become aware of the fact that the world you are living in has very definite ground rules, and that you can get outside them." (12)

In various ways, it is possible for women to step out of the feminine subculture and discover that the world they have been living in has very definite ground rules which are not at all absolutes. Just changing frames is then one way of modifying the reality level, of starting the process of consciousness changing.

The next phase is suggested by Karl Mannheim:

"Perhaps it is precisely when the hitherto concealed dependence of thought on group existence and its rootedness in action becomes visible that it really becomes possible for the first time, through becoming aware of them, to attain a new mode of control over previously uncontrolled factors of thought." (13)

After stepping out of the feminine subculture in a tentative way and at a single level, it becomes possible to look back at it and discover the "concealed dependence of thought" on the norms that obtain there. Then, for the first time, will those norms be really subject to examination and replacement through a "new mode of control over previously uncontrolled factors of thought." This implies a severing of the bond between group existence in the matrix of the feminine subculture and the kind of thought that grows from that group existence.

For, as Loren Eiseley has so sensitively and truly written: "We too, like the generations before us, are the cracked, the battered, the malformed products of remoter chisels shaping the most obstinate substance in the universe," the human species. (14) The remoter chisels of the feminine subculture are the generations of mothers who, internalizing the givens, have passed them down as absolutes to their female offspring. The questioning women who become aware of this determinism have then the task of carving out a new cognitive pattern, a new female mind, freed from the biographical destiny imposed by that feminine subculture.

NOTES

(1) Alfred North Whitehead, *Science and the Modern World* (New York: Macmillan, 1949), p. 71.

(2) Herbert Marder, *Feminism and Art* (Chicago: University of Chicago Press, 1968), p. 14.

(3) Mary Ellmann, quoting from *Giacomo Joyce* in *Thinking About Women* (New York: Harcourt, Brace and World, 1968), p. 107.

(4) F. W. Hegel, *Principles of the Philosophy of Law.*

(5) Helene Deutsch, *The Psychology of Woman* (New York: Grunet Stratton, 1944), vol. I, p. 290 et seq.

(6) Hannah Arendt, *The Human Condition* (Chicago: University of Chicago Press, 1958), p. 58.

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The Home Language of Chicanos As A Medium of Instruction

Eduardo Hernández-Chávez

The history of education of Chicano children in the United States can be characterized as one of neglect, pernicious as well as benign inattention to the particular needs of this group. In large part, this has been based on the proposition that non-Anglo ethnic groups should be assimilated into a general "American" way of life and that one of the purposes of education should be to encourage that process. Wherever it became evident that such a philosophy was unworkable, educators saw the causes in the inability of ethnic minority children to learn and sought solutions in the mechanical modification of instructional programs rather than question the basic assumptions underlying their educational policies. A catalogue of deleterious practices in the schools would include such devices as tracking systems, remedial classes, classes for the mentally retarded, and the like (1).

Some of the most harmful policies toward Chicanos in particular have been those related to language. Consonant with the ideal of assimilation, most schools have ignored the language differences of Spanish-speaking children except in a negative way through completely English-oriented instruction, the prohibition of Spanish in the school, and even admonishments to parents to use English in the home. While some educators were motivated by well-intentioned concern that the children learn English as soon as possible, and others simply hoped that the problem would disappear, the results were the same: educational and emotional retardation of Spanish-speaking children.

Out of this situation grew the somewhat more enlightened programs for English as a second language. These at least recognized that Spanish speakers as well as speakers of other languages existed, and that schools have an obligation to look after their special needs. But there was no change in the English-only orientation, merely a change in methods in the hope of speeding up the learning of the school language.

It is well-known that children have an exceptional ability to acquire quickly a second language, with or without special instruction. Often by the end of the first year of intensive exposure to English, Spanish-speaking youngsters will have gained sufficient command of that language to permit easy communication with classmates and teachers. Thus, the extremely harmful effects of schooling in a weaker language for bilingual and monolingual Spanish-speaking students are not immediately evident, especially to educators who are eager to believe that the deficiencies lie in the child and not in the school. If the child has learned English and still does not achieve, then, of course, it must be because he has diminished mental ability or else because his home is culturally and educationally deprived. There is a failure to perceive that one of the problems (among many others) is the educational system's insistence upon a medium of instruction which is a secondary and weaker vehicle of communication for the child.

The negative effects of the use of a medium of instruction other than the primary language are well-documented in the literature. Reading, the most important single skill that a child must learn in his formal schooling, involves the mapping of a system of graphic symbols upon another already established and mentally represented phonological and semantic system of symbols. In learning to read through a weaker language, the child not only must learn a symbolic system which is completely new (the graphic one), he must try to learn it through a different and abstract symbolic system with which he is scarcely familiar. If in addition he has little experience with the subject matter of the reading, the task becomes a difficult one indeed. In other subjects as well, a foreign medium limits what the child learns and the rate at which he learns it, especially if the subject is language oriented (and this is the case with most subjects, even arithmetic).

Nor does intensive instruction in English for one, two, or three years or even longer eliminate the problem of weaker language instruction. Canadian bilingual college students for whom English was the primary language are reported by John MacNamara to have shown no difference between French and English on certain tasks involving word recognition and the reading of scrambled passages(2). Yet on tasks that involved *semantic decoding* as in connected passages and word-picture matchings, the students showed significantly slower responses in French. Similarly, in another study by MacNamara and Wallace Lambert(3) in which English-speaking first grade children studied for one year in a monolingual French curriculum, the children performed more poorly in tests of word knowledge and word discrimination than did French and English control groups. Further, they proved slower in total skills, had a lower IQ than one of the English control groups, and performed much more poorly in reading. Retardation in problem arithmetic showed up in Manila schools after two years of weaker language instruction, in Ireland still after five years, and in Puerto Rico after twelve years(2). Thus, it is erroneous to believe that once a child has learned the school language he should be able to progress at the same rate as native speakers. The evidence strongly suggests that the educational effects of weaker language instruction are very long lasting. The harm done may in many cases be irreparable. Neglect of instruction in the home language often makes the second language dominant with the result that the student must learn all new concepts through it. Unless he has thoroughly mastered the language, there is an inevitable loss of intellectual ability and often even the ability to express himself well in either language. What a heavy price to pay for an inoperative melting pot!

Perhaps even more important than the effects of schooling through a foreign medium upon the learning of school subjects, important though these are, are the psychological and sociocultural consequences to the child and to his community. These have a profound effect upon his willingness and ability to learn. For any child, the first school experience can be frightening, even if he has been well prepared. If that experience is in an alien tongue, it can be devastating. Even when he learns some of the language, his inability, induced by the foreign tongue, to progress as rapidly as his classmates leads to discouragement and frustration. He becomes resentful toward school and toward education, a resentment which is easily transferred to the dominant language, its speakers and their culture. As if this were not enough, the non-use of his own language by the school hinders its development and in many cases causes the child to lose his ability to use it fluently.

If, on the other hand, he manages to be successful in learning the school language soon enough and well enough to counteract many of the negative educational and psychological effects, the student finds himself in severe danger of becoming alienated from his family and his community. His Spanish will be inadequate now for effective communication, and even if he has maintained it, the majority of his peers will have given up on school. A rift in the community between the educated and the uneducated is the sad result. The community cannot feel that the school is in any way a part of it, for its curriculum and medium of instruction are foreign to it, and the parents are not participants in the formal education of their children. In most of the United States, the policy of local control of school districts is well established and is considered a traditional and even conservative concept. But in Chicano communities, school systems are invariably imposed from the outside by the dominant society, and indeed, local control would be viewed as a radical if not revolutionary concept.

Given that schooling in a weaker language is the source of a great many problems, is the use of the student's vernacular as a medium of instruction a feasible alternative? Several philosophical and practical objections are often cited in opposition to the use of the mother tongue in education where it is not the majority language. These objections usually make reference to language education, sociopolitical considerations, or to the availability of teachers, materials, or funds.

In a country where the overwhelming majority of activities in education, commerce, and politics are carried out in English, there is no question of the value to all its inhabitants of a strong knowledge of that language. Especially in education, it is said, an intimate familiarity with English is indispensable. All but a very small portion of post-primary education is conducted entirely in English. Many parents of minority language children recognize this and place a high value on an English-oriented curriculum beginning with the child's first school experiences. They fear, as do most educators, that unless English is used exclusively, the children will not learn it adequately and that their entire education will suffer as a result. These popular beliefs have more than a grain of truth and they must, of course, be taken into account. But we must realize that these attitudes on the part of parents are often the direct result of oppressive language policies themselves.

So we must turn once again to the fact that monolingual education has failed to reach huge numbers of Chicano children and, while the question of medium of instruction is not the sole factor, it is certainly a major one. There is a great deal of evidence which shows that education using the vernacular, especially in the early years, has important positive effects on general learning as well as on the *learning of the educational standard.* In post-independence Africa when the need arose for mass education, the only method found to be effective was through the vernacular. As early as 1925 the (British) Secretary of State Advisory Commission had recognized the value of "the wise educational use of the language in which a pupil has learnt from infancy to name the things he sees, hears, and handles . . ."(4). Children are much more able to learn new concepts and skills if these are taught in the language they speak at home than if these are presented in a weak or unknown language.

Besides the obvious advantages of teaching school subjects by means of students' strong language, advantages that can hardly be questioned, it has been found that children learn the school language better and more quickly if they are first taught through the vernacular. This is an apparently surprising finding, but reports from widely separate linguistic and cultural areas point strongly to such a conclusion. A UNESCO monograph on the use of vernaculars found that equal or better command of the second language was achieved if the home language was the first language of instruction(5). Similarly in a 1956 experiment in the Philippines, children whose first three years of schooling were in their home language, Hiligaynon, were compared with children all of whose schooling was in English. Upon being introduced to English instruction after the third year, the children who had received instruction in Hiligaynon caught up with the English taught group within six months. It was further found that, rather than hindering their ability in the second language, there was a transfer of reading skills from Hiligaynon to English.

In still another study of Chiapas, Mexico(6), Tzotzil and Tzeltal-speaking children from state schools were compared with children from schools of the Instituto Nacional Indigenista. The state schools initiated instruction in the preparatory year entirely in Spanish and were devoted to teaching literacy. The institute schools taught literacy in the vernacular and presented Spanish orally. After mastery of the vernacular primers, the children were placed in the first grade for reading in Spanish with national textbooks. In all three municipios studied, the children from the bilingual schools were able to read in Spanish with greater comprehension than the children from the monolingual Spanish schools.

Thus, the claim that the use of the home language as the medium of instruction will retard the learning of the school language is false on two counts. Not only does it not inhibit the learning of the second language, it apparently enhances it. Reading necessarily involves meaning and comprehension. Learning to read through a language and subject matter that one is unfamiliar with has to be a confusing and doubly difficult task. The result is not only poor learning, but, more destructively, the fostering of a negative attitude toward all of the learning process. On the other hand, learning to read one's own language successfully can be a highly satisfying experience, generating enthusiasm for learning of other sorts.

Instruction in the mother tongue also produces effects outside of the strictly educational sphere. One of the concerns of educators and others entrusted with fostering national unity and feelings of loyalty in the people is that the use of a language other than the national one will create divided loyalties or even direct antagonism toward national ideals. In the United States there exists a widespread belief that there is a more-or-less uniform "americanism" that everyone should strive for. People who hold on to a culture and language that deviate from this ideal are somehow not quite "American." Perhaps they are even subversive. But people of non-Anglo ethnic backgrounds, many of whom maintain their native cultures, are among the most loyal people in the nation. Nor have they failed to learn English, an achievement that is usually accomplished by choice. In the Philippines, the Iloilo experiment(7) demonstrated that those youngsters who received their early education in the vernacular, rather than becoming provincial, showed a greater identification with the national culture than those taught in the school language. Where a language and culture are imposed upon a people, resentments toward them naturally arise and there is less desire to identify with the dominant group.

Democratic ideals of self-government require that the populace be well informed of its rights and obligations and of the performance of its representatives. Thus, national goals are advanced through education just as poor education results in a lessened ability for effective citizenship. If this is so, then schools have an obligation to provide the best education possible to their students, and it is clear that early instruction through the home language is essential to the proper educational and emotional development of children. The alternative to mother tongue instruction is substandard education with consequent harm to the citizens and to the nation.

Citizenship also involves one's local community. In the Iloilo experiment(7), there was in general a better understanding between parents and children in the communities where Hiligaynon was used as a teaching medium. The children had a greater desire to share their school experiences with their parents who, in turn, were more eager to participate in school affairs. Apparently even personal relationships un-connected with the school were affected. For example, children were reported to participate more in housework and other chores and to have followed better health habits. In Chiapas also, similar results were found(6). In the areas around institute schools, more of the adults were literate both in their own language and in Spanish, and there was greater success in teaching girls who in those cultures offered more resistance to school than did boys.

In the United States with so many ethnic minorities, would not the establishment of schools with vernacular instruction for one group set up a clamor for similar treatment for all the others? Besides, under such a policy, decisions would have to be made in some instances, e.g. Spanish, about what form of the language to use, qualified teachers would have to be found, and teaching materials in all of the vernaculars would need to be prepared. Furthermore, if the children already know their home language, why waste time teaching it to them? It is frequently nothing more than an ungrammatical dialect anyway, and it is not fit as a medium of instruction. It would be better to teach them English, which they do not know.

Some of these objections have already been answered. English of course must be taught to youngsters in U.S. schools, and many of the educational and other advantages of home language instruction have been discussed. One point that has not been made, however, is that for its speakers (leaving aside the national interest), a culture and a language represent a valuable resource, a precious heritage. No society has the right to destroy them. Yet English-only policies have just that effect. We must end the contradictory policies of spending great sums of money and much effort to teach children a foreign language while at the same time depriving native speakers of other languages of the opportunity to develop fully all their linguistic skills both in their home language and in English.

Many ethnic minorities have already lost their languages either through choice or through discriminatory policies of the schools. Yet there are many groups with substantial numbers of speakers who must be encouraged to maintain their linguistic heritage. Usually, they are concentrated in particular areas of the country and around particular school districts. It is the duty of those schools to provide the best education possible for all their students. In many schools, individualized instruction is seen as a way to give every child just the kind of instruction he needs. "Individualized" language instruction can be school or community wide and is much more easily attainable. Do we not owe entire groups the same amount of attention that we give individual children? Teachers and materials are prepared for many types of special instruction because where a need is seen, there are usually attempts to provide specialized solutions. Yet the schools have a blind spot in the case of linguistic minorities.

As to the question of ungrammatical dialects, all dialects and languages have grammars, and with the preparation of adequate materials, they can become perfectly adequate vehicles of instruction for most primary education. Some which are languages with a literary history are adequate at all levels. But it is the local form of the language, and not a literary standard, which is the vernacular(8). It is this language which must be used for early childhood education, for it is the tongue in which the child has all his earliest experiences and with which he has formed strong emotional bonds. Later, if he wishes and it is available, the student may choose to study the literary form of his language and to develop his skills even further.

To summarize, of the various educational practices which have served to alienate Chicanos from the schools, short-sighted language policies have some of the most far-reaching effects. English-only orientations have stunted the educational growth of large numbers of children and have driven them from the school. The neglect of their home language has alienated them from their families and communities, stripped them of their culture, and promoted divisions within the community.

There is much evidence to show that none of this is necessary. Instruction in the vernacular not only helps the child learn all his subjects better, it affects in a positive way the learning of the school language and develops all of the child's intellectual abilities. He becomes more self-confident, with increased ability to express his personality, and he achieves a more positive concept of himself. Home language instruction has important benefits outside of the school. The child identifies more closely with his family and community which in turn relates more positively with the school and with other institutions of the majority culture. An extremely valuable resource, the community's language and cultural heritage is developed and utilized in a constructive way rather than ignored and allowed to wither.

The disadvantages of vernacular instruction are largely of a practical nature which, with a modicum of resolve, can be easily overcome. And they must be. Present language education policies are disastrous to many thousands of youngsters from linguistic minorities, and the beneficial effects of teaching through the home language far outweigh any practical difficulties.

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An Inheritance of Folklore: the Beneficiaries?

Virginia Haviland

On one recent useful occasion of speculative pondering (in view of this paper) I found myself playing the WHAT—IF or SUPPOSE game. I asked: Suppose we had not been, as indeed we are, beneficiaries of a rich inheritance of folk imaginings? Suppose the ancient bards and storytellers had died off before anyone wrote down their oral tales or told them to other oral purveyors? Who would have been the losers? Are we losing today? I recalled hearing the folklorist Dr. Frederic Guirma from Upper Volta state that "when an old story-teller dies, a library is burned." He heard the tales he set down for us in *Tales of Mogho*(1) and *Princess of the Full Moon*(2) from storytellers who had them as a living folklore. He worries about their likely eclipse in this age of radio.

There have been many acknowledgments of a debt to folk literature. Earlier than Guirma, and far to the north of Africa, surrounded by a rich aura of living Celtic lore, a poet grew up to acknowledge his debt to folklore. In his autobiography(3) this Scottish poet, Edwin Muir, tells how his childhood had been spent on Orkney when it was "a place where there was no great difference between the ordinary and the fabulous; the lives of living men turned into legend." And, he added, "All these things have vanished from Orkney in the last fifty years under the pressure of compulsory education." On the subject of "what he owed to legend, as a man and as an artist," Muir was to write a poem entitled "The Debtor."

None of us if we look around can fail to recognize that folklore has inspired writers and artists. Picture the utterly impoverished condition of today's children's libraries if there were no inheritance of folklore. Imagine the shrinkage on fiction shelves--without modern books about witches, warlocks, ghosts, dragons, and other monsters, giants, little people, and magic in many fanciful forms—shape-transformations, magic journeys, spells, and outsized feats by questing heroes and heroines! Would writers possibly have conceived of such beings and motifs—so immensely delightful to child readers and listeners—without the inheritance of specific tale types and the examples of poetic greatness in folk literature?

What about the picture-book shelves? How *these* rows of books *also* would diminish if we were to take away the creations of illustrators who have interpreted original texts patterned on elements in the old and popularized in a new way tales inherited from the past. How else would some of our picture-book artists support themselves—those who must rely on ready-made texts? Would they continue to work in the children's book field?

Commercial artists as well often borrow from the old tales and parody them. You have no doubt met the Jolly Green Giant. We cannot be so parochial as to consider that the benefiting inspiration of this inheritance has been meted narrowly to those who create *children's* books. Art in all forms—music, ballet, painting, sculpture and other architectural decoration—reveals the influence of mythology, legends, fables, and fairy tales. If the inheritance infuses modern art less today than it did in other years, its influence appears no less strong now on modern children's literature. It is and has been an enormous influence indeed.

We could talk at length about many elements in folk literature that strongly appeal to children. In the artistry of telling there is so much to admire. Traditional tales may indeed serve as models for short-story writers. Terse narratives honed by centuries of oral sharing achieved their vigor, swiftness, and dramatic suspense through deletion of unnecessary explanation, drawn-out description, and introspection. They have arresting openings and conclusive endings. Innumerable stories have that satisfying achievement of the youngest or weakest or most put-upon sister or brother—the widespread "Cinderella" or "Cinderlad" theme—an example of the rightness and completeness of solution to a universal human dilemma. Other stories have strong moral truths and the beauty and poetry of symbolism. Some have wit and humor in animal trickery and human buffoonery, and fantastic magic in bigger-than-life situations. The tight relationship between child demands and juvenile book production is currently obvious in the dictating of a new burst of books about magic and the supernatural. It is based on children's natural love of the delicious chill derived from the mysterious, the grotesque, and the devilishly clever. This innate delight may be being furthered by television shows which are exploiting public interest in the magic of witches, monsters, and other manifestations of the occult.

It is children's response to these qualities that has kept their inheritance alive in books, from chapbook printing onward. What our children like does indeed determine what will continue to be published. But there will always be both the good and the shoddy.

Not all the borrowing, paralleling, and parodying has resulted in significant work by modern writers—too often there have been perversions and weak copies. Can it be today a reluctance to give children strong meat that has turned some to the creation of falsely sentimentalized, benign giants, dragons, and witches? Rather, it would seem that such persecution of the old must stem from attempts to be original. Or perhaps humorous?

Such softening is only banal—not original; and, being trite, not amusing. A folklorist, David J. Winslow, alarmed by the tendency today not to permit a witch to do evil, has said (4): "If this inversion of the witch's character is popularized and this concept becomes the most familiar, folklore will again have undergone change."

But we are aware of a continuing harvest in first-rate new editions of inherited tales which have met standards of library selection for folklore and have survived the strict winnowing also of titles for the annual lists—the American Library Association's "Notable Children's Books," the longer Library of Congress list, and the still larger compilation made by the New York Public Library. Surviving titles have been singled out by highly professional committees who recognize both literary qualities and importances for children. The lists reveal that the viable inheritance of traditional lore is reflected in a fruitful borrowing from folk literature by those writing literary fantasy today as well as in the lively range of new collecting and the fresh retelling and illustrating of the old.

Thus those library shelves I have pondered about are gathering new wealth for folklore beneficiaries—the children now and tomorrow's creators. The sources for these new folklore editions are varied. Linguists who can read the original languages of old written sources and folklorists who recognize the worth of these tales have been plucking and revitalizing folk stories set down years ago, some of them in obviously unedited texts.

Household sharing of tales brought to our country from abroad have helped to keep them alive. Virginia Tashjian, a gifted storyteller, has produced attractive volumes of Armenian tales, hitherto little known to our children, unless they, like her, have listened to them told by Armenian parents. It was through such family telling also that Sorche Nic Leodhas became familiar with much of the Scottish folklore she set down so delightfully in *Heather and Broome*(5), *Thistle and Thyme*(6), and many other beautifully produced volumes. It was thus also in the household, earlier in our Midwest, that Wanda Gág heard the Grimm stories told by her old grandmother who knew the tales as living folklore, though Wanda Gág herself made a fresh translation from written sources when she came to illustrate them anew.

Among today's collectors of a continuing inheritance from the field are the counterparts of the old-time missionaries who gathered tales in Africa and Asia—today's Peace Corps teachers who have been encouraging their pupils to bring to school and to write down the tales they have heard from their elders in villages of Vietnam and other far-flung areas of the world.

Working in the rich field of Africa, modern retellers have brought out genuinely appealing stories. A strong interest in the African backgrounds of American folklore makes particularly welcome this year's presentation by Julius Lester of a small volume of simple animal folk stories in *Knee-High Man and Other Tales*(7) (an ALA "Notable").

From the American Indian culture — another area of heightened concern today—are coming more books of Indian tales and those of the Eskimo. Another ALA "Notable Children's Book" is Margaret Hodges' retelling of the Iroquois tale of how Coyote brought fire to men. Entitled *The Fire Bringer; a Paiute Indian Legend*(8), it is handsomely illustrated by Peter Parnall.

From this recent new wealth we are well aware then of the children as beneficiaries. What about the adults—the writers, artists, and scientists?

We shall take a longer look at the significance of the folklore inheritance for writers of fantasy, but first let us consider the benefit to scientists and inventors, those for whom a childhood reading and love of folklore and other fantasy has had the acknowledged effect of strengthening imagination and supporting creativity in their fields.

Faced by a recent requirement to address an editorial on folklore to child readers (of the forthcoming new children's magazine *Cricket*) I began to think more about the connection between fairy tales, imagination, and the impulse to create. We have so often said that if you can imagine, you can create . . . and we can relate this to scientific and technological advances. Stories of the larger-than-life or that which has not been experienced indeed fill the child with wonder and must surely feed his capacity to imagine and create. We have observed children who like both science and fantasy, who are avid readers of Tolkien and science fiction. Interviews with scientists have indicated that they, like creative writers, have been stimulated by early acquaintance with fairy tales.

In his book *From Two to Five*(9), the beloved Russian poet Kornei Chukovskii notes that the famous British physicist John Tindale lectured in 1903 at the Convocation of the Kiev Polytechnic Institute on "The Role of Fantasy in the Development of Science" and that the Russian V. L. Kirpichev dealt with "The Importance of Fantasy to the Engineer." Through the facilities of a Russian specialist at the Library of Congress, I found that Professor Kirpichev was quoted in Russion periodical literature(10) as saying "I speak . . . about that fantasy which is necessary for masters of their art, the creators and advancers of science. Fantasy is necessary to a mathematician so that he can think up new structures. Without it he will not move forward, but only spin in a circle around previous ideas."

Chukovskii, reinforcing all defenses of folk tales for the young, spelling out both the child's preference for fairy tales and the role of fantasy in developments of science, himself comments(11): "Without imaginative fantasy there would be complete stagnation in both physics and chemistry." And he stresses further "The value of such tales in developing, strengthening, enriching, and directing children's thinking and imaginative responses—a value" he adds "that has been tested by classic works produced over the centuries . . . we must develop a generation of inspired creators and thinkers everywhere, in all fields of endeavor."

Muir's acknowledgment of his special debt to legend must surely express the conditioning of many a writer. Let us see how some creative short-story writers have made use of the traditional, how they have mastered the structure, the succinctness of scene-setting, situations, and characters, and how they have conveyed meaning and flavor—those characteristics which oral usage down the years has preserved in the old tales.

Many studies of Hans Christian Anderson have been written and they have been so widely read that it is familiar fact that in his poverty-stricken childhood he fed hungrily on the Danish tales and legends told him by his grandmother—

and later was able to retell them and to create new tales with charm. His manner in retelling the old was sometimes an informal elaboration as one can see in his free rendering of the Norse tale "Gudbrand on the Hillside" into his own "What the Good Man Does Is Always Right."

Howard Pyle, on the other side of the Atlantic a half century later than Andersen, was also nourished on the old tales, steeped not only in a knowledge of them but in an awareness of their spirit. It was his mother who introduced him to the stories he came to love so deeply. In one of his letters to his mother (12), written in his twenties, Pyle indicates "I took Thorp's *Modern Mythology* out of the Mercantile library. . . . A dry and prosy collection of medieval legends, many of which I have selected to make note of and I shall try whether I can infuse a little fairy-tale juiciness into them. It is a rich mine to select from, although a dull book to read. . . . Some of the stories of trolls and kaboutermannekins are funny in the extreme. . . ."

The early pages of *St. Nicholas* and *Harper's Young People* carried many of Pyle's fairy tales which later filled his *Pepper and Salt; or Seasoning for Young People* (13) and two later collections.

Walter de la Mare, like his predecessors Andersen and Pyle, was also adept both in retelling the old stories and inventing new fairly tales. He wrote some 20 original stories and retold 60 folk and fairy tales, from Aesop, Perrault, and Grimm, as well as from English tales. They came unaltered in plot or character but with his poet's gift of language he embellished the backgrounds and enlivened personalities. In his monograph on De La Mare the English poet Leonard Clark has written about the retellings of folk stories: "De La Mare reshaped them without destroying their original force, improving at times, upon earlier versions. . . . De La Mare's gifts as a storyteller enabled him to intensify the atmosphere of all these. In each case he added dialogue, many charming backcloth descriptions, and, in so doing, 'filling out' the tales."

It is interesting to see that "Jack and the Beanstalk" inspired De La Mare to invent his own tale "Dick and the Beanstalk." This has elements of the old as if in a much longer, elaborated sequel. De La Mare's Dick, who lived in Gloucestershire with his father, a farmer, had his head filled with the old tales, as had De La Mare himself as a boy, and he dreamed about them.

The Beanstalk and the Giant are indeed appealing ingredients for a new tale. In a much shorter story than De La Mare's sequel, another fresh invention has been recently created, both words and pictures, by the prize-winning English illustrator, Raymond Briggs, who develops a highly humorous situation. In his *Jim and the Beanstalk* (14) he shows another bright young lad finding at the top of the fantastic beanstalk Jack's own giant who is now an old man—toothless, bald, nearly sightless—until the clever, obliging boy finds what the giant so badly needs and in three separate laborious trips back up the stalk carries to him gigantic spectacles, false teeth, and wig, and thus restores the old giant to a new vitality.

Such inventions do not stand alone in Britain. The English, particularly, are adept at it. In *Tales Out of School* (15), Geoffrey Trease expresses his view of fantasy-writing in England: "For centuries the literature of Fancy rolled through England like a beneficent snowball, picking up old history in fragments and rolling it into a new shape. . . . Having gathered up first the folk-lore of Britain and then that of Europe and Asia, the snowball was after original modern works." Surely it is in the English blood to keep alive the old and to create anew along traditional lines. Not only the authors of familiar classics but many modern English writers of fanciful tales reveal an awareness of their rich folk inheritance and a saturation in the traditions: Eleanor Farjeon, Joan Aiken, Barbara Leonie Pickard, Philippa Pearce, and Alan Garner.

In conclusion, we can indeed recognize that the great original fantasies of the past century, in an impressive part, have been devised by writers saturated in our inherited lore and quickened by its stimuli. Our inheritance has been increased through the broadened availability of traditional tales in attractive form and extended through the fresh literary productivity of its beneficiaries — folklore-loving children grown to creative adulthood.

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Ninth Recognition of Merit

GEORGE G. STONE CENTER
FOR CHILDREN'S BOOKS

Claremont Graduate School
Claremont, California

Presentation of Recognition of Merit to Zilpha Snyder

by

WINIFRED RAGSDALE

One important but indefinable area of our lives is inhabited by dreams, the imagination, and even authentic magic. Zilpha Snyder is uncommonly at home in this good land. She knows of an amulet which summons pale horses, an ointment which grows wings on humans, and some ghosts which populate a department store. She introduces us to puzzling realms whose inhabitants may only possibly have magic powers; where cats may or may not cast spells; a girl may or may not be a genuine witch; offspring may or may not be changelings. In every book, however, it is her characters' very entry into that inexplicable world which propels them toward an awareness of themselves as worthy and effective human beings.

The children in one of Zilpha Snyder's books, however, are dependent not upon the supernatural portion of that indefinable area, but upon their own limitless imaginations. They have been touched by the glory and the drama that was ancient Egypt, and within the confining limits of a storage yard these autonomous neighborhood children create a world of their own and play out the high events of pharaohs and high priestesses. The children of Paul Hazard's Republic of Childhood are devising their own fulfilment.

THE EGYPT GAME has been beloved of children since its appearance, and these are perhaps some of the reasons: a story that shows care and fine craftsmanship; viable child characters, each with discrete emotional and physical characteristics; adult characters who play appropriate and believable roles; the healing and releasing presence of humor; and always a vivid sense of the seriousness and excitement of being a child.

Young readers might not articulate their reasons in quite this fashion. But they do know the importance of that indefinable kingdom of the imagination. This year the children of Southern California, and their teachers and librarians, selected THE EGYPT GAME as the book which lifted their spirits most. And we are happy to present this scroll, the Recognition of Merit of the George G. Stone Center for Children's Books, to Zilpha Snyder.

Mrs. Ragsdale is Director of
the George G. Stone Center for
Children's Books

Recognition of Merit

presented to

ZILPHA KEATLEY SNYDER

honoring

THE EGYPT GAME

for its power to please and heighten
the awareness of children and teachers as they
have shared this book in the classroom

◆

presented by the
George G. Stone Center
for Children's Books
of the
Claremont Graduate School
at the
40th Annual
Claremont Reading Conference
1973

Acceptance Message

by

ZILPHA SNYDER

To be awarded the George G. Stone Recognition of Merit is gratifying to me in some very special ways. In many walks of life awards are given to individuals for the fruits of their labor, but an award given to a writer for one of his or her books is especially gratifying, because of the unique relationship between a writer and his work. The only situation I can think of that might begin to compare would be that of a mother whose offspring had just been awarded first prize in a beautiful baby contest. Because writing is such a personal and subjective occupation, writers, like mothers, tend to become very closely involved with their product. Even a mild criticism of their work tends to elicit a response that would be more appropriate to an attack on their personal honor and integrity—as any English teacher can tell you who has tried to offer suggestions to budding Hemingways and Faulkners. And conversely any recognition given for the worth of a writer's product is uniquely reassuring to the recipient.

But there is another very special reason, why the Recognition of Merit is especially gratifying for me, and that has to do with the way that the award book is chosen. In a statement about the selection process, Winifred Ragsdale wrote that the award book is chosen, not only for its literary merit, but also because it is a book that has been "beloved of children."

To me, that is a beautiful and beautifully important criterion in the choosing of award winners in the field of children's literature. I realize, of course, the awards cannot, and should not, be given solely on the basis of popularity, but I have often wished that children could be more closely involved in the whole process of creating and choosing the literature that will be offered to them.

If I put a rather high premium on the response of children, perhaps it is because of my own early relationships with books. My memories of those relationships are very vivid, and while not many of them could be classified as intellectual or literary, they certainly could be classified as love. In fact, I would have to confess to being involved in an endless series of joyous, exciting love affairs with a great many "beloved books." I confess—but I know I'll never repent.

Perhaps that is the reason why I truly can't imagine winning any award that would mean more to me than one given on the basis of the merit of "beloved books." And I feel immensely grateful to all of you here at the George G. Stone Center, and to all the librarians and teachers who, by introducing or reading THE EGYPT GAME to boys and girls, have helped to make it a book "beloved by children."

From Sound to Symbol – –
A Natural Approach to Reading

Charles H. Herbert
and
Anthony R. Sancho

All humans appear to possess a natural learning ability to take on a complex system of communication—language. In fact, according to Lenneberg, the learning of language is inevitable to normal persons; and this learning ability is utilized at a very early age, during which period many other cognitive skills are also being learned.(1) But reading, a secondary system to speech, is not usually learned in such a fashion; it is normally taught and then not always with the same successful results that most persons demonstrate with the primary form of language. This paper suggests that the same native cognitive abilities that permit children to learn to speak should be utilized to a large extent to increase the degree of success for children attempting to learn to read. This concept of using innate learning abilities to enhance children's learning of reading is referred to as the active or natural approach to the learning of reading.

Instruction, including the teaching of reading, is normally thought of as being a deliberate, carefully planned effort to produce prescribed learnings. The problem with such instruction is that it assumes that reading, or whatever the subject matter, is *taught* rather than *learned*. Furth has pointed out that children are talked at so much that a good deal of information is passed by or swallowed whole without understanding by a child who doesn't have a real notion of what is being said.(2) Reading instruction of this sort is common, and puts the child in a role that is for the most part that of a passive learner. Furthermore, no amount of colorful illustrations or special alphabets or other devices can overcome the basic obstacle of a non-participating student. Participation, in the natural approach to reading, refers to the truly experiential awareness of the reading process on the part of the learner.

When children are learning to understand and speak, they are actively pursuing the learning of a complex system of communication. It matters little what form of speech they hear or how diverse the models may be; they end up understanding and speaking without a formalized, deliberate, planned curriculum. They experience language and, through the experience, learn the system of speech. The same cannot be said for children's participation in most reading programs. To experience an event is to live through it, to participate fully in it, to incorporate it and to use it to continue to learn. Experiencing a concept is also to try it out, to test it. A controlled reading program has no provision for such trials and testing to take place. Yet it is this very system that is used by children to take on oral language. True, a good part of language consists of ready-made formulas; but the creative part of language, its use, is not a matter of repeating stock phrases that have been learned from someone else.

In learning to read, the process of decoding and encoding print calls for the learning of specific skills, some of which can be taught by rote. But using these skills involves more than the simple taking in of the skills through prescribed exercises. Creative learning of reading involves the child in understanding the system of reading through the use of his own intelligence, just as it was used in his learning of oral language. Not that oral language and reading are really parallel systems. Even though both are linguistic systems used for communication, a marked distinction exists between the two. The distinction is greater in the way they are learned than in a comparison of the systems themselves. That is, oral language is a linguistic activity that is learned without much conscious effort, while learning to read requires some degree of awareness of the system. Children must understand that oral language is the primary form of communication and that print is a secondary representation of it. A program of reading based on the child's own language, much as the language experience approach, helps establish the primacy of speech.

But children must also be led to apply their native linguistic skills and abilities to the learning of reading, just as they did when they took on their natural oral language, without a structured program of learning steps. The taking on of the complex system of oral language virtually without instruction indicates that natural cognitive development occurs and plays a major role in the acquisition of language. Most of these cognitive skills that are naturally developed are also useful and needed in learning the process of reading. It therefore seems reasonable to incorporate and use a program of conscious cognitive skill development as part of a reading program. In addition, such a program should encourage and develop the application of such skills to the task of learning to read.

Such a reading program would incorporate the application of a hierarchy of cognitive skills in order to provide the external structure upon which the program would be based. This refers to a hierarchy similar to that of Bloom's Taxonomy of Educational Objectives: Cognitive Domain.(3) In a very simplified way, the hierarchy would include and rank the following skills and some of their applications to reading:

1) OBSERVING—learning to see overall patterns or details. In reading, this may be looking at graphs, differentiating between them and at a more complex level being able to scan lines.
2) LISTENING — learning to differentiate between sounds and then attaching those sounds to the graphs that represent them.
3) MEMORY—learning to recall or being able to pull back information previously learned. This does not mean memorizing specific facts, but learning methods for remembering.
4) ASSOCIATION—learning to make connections between like items, learning to associate phones with graphs, meaning (concepts) with words, etc.
5) CLASSIFICATION—learning to categorize, rearrange, regroup items in other ways. In reading this could be classifying words that have the same ending, words that have the same initial sound, categorizing concepts, etc.
6) SYSTEMS—learning to use systems such as the alphabet; using systems of arrangement and representations of sounds, etc.
7) TRANSLATION—learning to express something in a different way; learning to transfer from sound to symbol, transferring from one form (oral) to visual (print), etc.
8) INTERPRETATION—learning to take an idea or a concept and being able to explain it to someone else or to yourself. In reading it could be getting meaning from context.
9) APPLICATION — using what has already been learned to take on something else. In reading it could be learning a specific skill and then using that skill in another situation.

10) REASONING—learning to draw conclusions from what is presented.
11) CREATIVITY—learning to express something in a novel way. In reading this skill has many uses, not only in presenting something in a novel way, but being able to interpret and reason in a variety of ways, particularly in terms of context.
12) JUDGMENTS—learning to make value judgments about something that has been dealt with. In reading comprehension this is an essential skill.

The teaching of such skills, which contribute to the ability to learn to read, can take place through the skillful use of teaching and learning situations. These situations can be structured to guide the child to the discovery, practice and use of these skills toward the goal of reading as well as in other areas of the curriculum. As opposed to the random, disassociated events that give a child the opportunity to learn oral language, a program of cognitive skill development may give direction and guidance so that the child's observations are linked with his intellect and then applied to the task at hand, that of learning to read.

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It's a Possibility: Humanism in Reading

George Fargo

A Possibility

About 20 years ago in our neighborhood cooperative nursery school, I watched a four-year-old deeply involved at the easel. An adult walked up and asked the unpardonable question—WHAT IS IT? The four-year-old, without missing a brush stroke, replied, "IT'S A POSSIBILITY."

I've followed the progress of this youngster for these many years. At the age of 12, he wrote:

ME and WHY

I am not a dog and not a bird.
I am a strong leopard.
I am a direct descendent of the cat — Oh mighty cat.
I would be a leopard because of the respect of others.
Oh yes, others.
A leopard I would be in glory, triumph, defeat
and dishonor.
A hunter or the hunted, a leopard I would be .
Not a duck that flies in fright.
Not a monkey that screams in delight.
For those are the animals that belong with man,
ugh man.
Not free like me to roam or go home.
If I would fall prey to the big fat hunter who
traps for the zoo.
A big leopard I would be so peanuts thrown
at monkeys would not be thrown at me.
I would die a leopard.
Not a bird, nor a moose in a noose,
Or a rat chased by a cat.
In all fame and/or glory,
I would live to die a leopard.

David is now completing his doctorate in anthropology. His is the story of a possibility realized. Reading, a key to self-actualization in our complex information-centered culture, is a skill he has always taken for granted.

Former Commissioner Allen, as he launched The Right to Read program, estimated that 25 percent of the children in our schools have serious reading problems. (1) What does this mean for their possibilities? What can these 15 million children take for granted?

Every child is a possibility—his potential maximized to the extent that the school receives, strengthens and gives thrust to his inner and outer heritage—his "possibility" diminished by every label schools use to explain why they have failed to connect with that heritage. And one of the most decimating outcomes of that failure to connect is the label "non-reader"—a label that all too often ends up denying access to a full share of life's action.

Some of these 15 million are white, Anglo-Saxon Protestant (WASP) children; their failure to fit their behavior into the restricted band of school-approved responses deriving mainly from not being of the middle class or from the teacher's inability to relate to their idiosyncratic behavior. For schools too often. . . . (2)

> train or seek to train children in middle-class manners and skills. And they select those children from the middle and lower classes who appear to be the best candidates for promotion in the social hierarchy.

Most of the 15 million children are not only poor but ethnically different. Douglass states, "additionally, we know that in our major racial and ethnic minority groups, that figure frequently exceeds 90 percent (serious reading problems) where such people are living under ghetto conditions." (1) Minority children frequently carry a whole host of negative labels which portray the school's denial of the child's reality, of the school's inability to find value in other than mainstream experience. Yet who must we educate and what are we educating for?

Recently, Mayor Hatcher of Gary, Indiana invited reading teachers to participate in the "real world." (3)

> Power to the people!—not a phrase we usually associate with teachers, yet one with special meaning to teachers, especially reading teachers. What is this power we advocate turning over to people? Should it not be the power to cope with our world and to change that world when it needs changing? To gain this power, people need skills and among those skills is reading.

We punish millions of children by denying them their own experiences as a valid form and content for reading. The child fails to find continuity between his life and his school; he cannot find himself, claim himself and then extend himself in a setting that loses, disclaims and restricts him.

The ranks of reading failures continue to swell, despite the enormous increase in the numbers of reading specialists. Are we manufacturing reading problems, or eradicating them? Listed below are ten "cop-outs" present today in varying degrees, each singly or in combination impeding adequate services to children with reading problems. There is a need to examine some of the assumptions currently operative which lead to either empty or counterproductive solutions.

Cop-out #1—Assumption that some kids just aren't educable anyway

Placing the problem within the child absolves the teacher, curriculum and the schools of "blame." Inner city schools, where year after year achievement tests verify "failures in reading," have come to be endowed with teachers who almost unshakably believe poor and minority children have less ability to learn. But this premise is more subtly true in the minds of teachers regarding any child who is not achieving within the narrow measures we establish for success. Although the literature abounds with concern for this kind of buck-passing, it continues to be passed; the child who fails is the only one held accountable. He has failed; the teachers and schools have "passed." The implications of Kagan's recent findings are striking in this regard. Primitive Indian infants, left alone without any normal stimulation for their first year, emerge from that isolation severely retarded. Yet by the time they are 11, they score as high on tests of memory, reasoning ability and perception as middle-class American children. (4) This happens in a culture that does *not* sit in judgment of prescribed emergence of specific and narrowly intellectual skills from the age of five, and thus where the child's self-esteem, the main force of his motivation in learning, is never threatened.

Cop-out #2—Assumption that difference is somehow deficiency

Not just poverty but cultural difference is often seen as a contemptible and humiliating set of circumstances from which children should be anxious to escape. (5) At the other end of the continuum, children of suburbia are reinforced by the schools and maintain comfort with lack of contact, in rejection of, differences in race, religion, culture and life style. (6, 7) Rather than using that experience to explore the meaning of their own lives within the context of others' realities, schools reject the strengths and experiences of millions of students because they are different.

Cop-out #3—Assumption that schools still have a "melting pot" function

As the justification of rejection of difference, schools cling to the aged premise that it is the function of schools to make children homogeneous, strip the strangeness away, plug in appropriate values, attitudes, behaviors and skills and turn out Americans all. But lumps at the bottom of the melting pot refuse to melt. With increasing clarity, each has a heritage he is willing to share, an identity in which he is rooted which he will no longer risk in the great American kiln. Schools can no longer fail to cherish what it has long regarded as essential to destroy. Alan Howard, an anthropologist, describes the poor Hawaiian child as a hero (of his culture) winning the fight of refusal to adhere to the haole (white stranger) ways. The child is devoting considerable energy to "beating the teacher" in order to retain his identity. (8).

Cop-out #4—Assumption that learning is a passive act

Schools reward standard English and standard behavior. "Good behavior" and "right answers" come from students who do not challenge the teacher, who memorize and regurgitate and who judge themselves by how others do. In other words, a passive "feed me" learner role. Passivity is a natural response to never feeling "at home" in a classroom. Yet passivity, as a stance toward life, is seen as a central factor in anxiety, depression, masochism, alienation, inadequate self-esteem and unrealized human potential, among many other human ills. (9) Too often the reading approach does not provide active participation.

Cop-out #5—Assumption that reading occurs the same way for every child

Reading is not a matter of learning to match letters to sounds or name words . . . but a matter of creating meaning out of what one has heard and experienced for the print he encounters. (10) If this is true, then "non-reader" is a term created to describe those children who come up with different meaning derived from different experiences than you or I have had. If reading is the process of integrating external events and internal memories to produce a series of mediated and differentiated responses, then we need to attend to unique and personalized responses as real and the meaning encountered as relevant before we label, diagnose, track, correct, remediate, test-and-retest and isolate.

Cop-out #6—Assumption that failure motivates and children respond to disapproval

Unconditional positive regard—you are worthwhile just because you exist—is increasingly seen as an essential component of a growth-nurturing climate. Yet in most classrooms, it is highly conditional; and often negative responses accrue to any child who does not pass through the daily success-failure sorting machines with a sufficient number of correct responses. The teacher sits in pervasive judgment, dispensing smiling faces, points, stars and grades to carefully separate the wheat from the chaff. When attention zeroes in on errors in judging narrowly correct responses rather than warm support of approximation and careful extension of the child's meaning to the broad sense of words, the resultant anxiety is often too much and the child withdraws, rebels or leaves the scene. (11) We know people avoid being a nothing and strive to be a something. (12) Yet curriculum classroom management and teaching techniques too often do not reflect this knowledge.

Cop-out #7—Assumption that the answer lies in diagnosis

The proliferating categories of remedial reading teachers, reading specialists, neurologists, psychologists, etc. seem directly correlated with the increase of children with reading disabilities. All this is accompanied by increased specificity and labels for children who do not meet expectations and thus must be separated from the achieving mainstream and "treated." The curriculum is established and children are to be dealt with in established categories of services available; it then becomes a matter of sorting (i.e., The good reader will turn to page — in x, the non-readers will go to room y and "be treated.") It may be that there is a myth of the non-reader akin to the myth of mental illness. (13) These children who often read life, truth and people with great clarity find that in the classroom they cannot read. If we turned all the professional skilled energy into developing schools children felt good in, into approaches that insured success, into unclenching the teeth of teachers and deepening our approach to education, we might make success as contagious as failure has become.

Cop-out #8—Assumption that there must be one final cure for reading problems

Lime juice may have cured a great variety of scurvies, but no one method of reading instruction will resolve the great variety of reading problems we find in the schools today. Diagnostic findings seldom translate to appropriate methodology. What educators have had to face is that one apparent cause can produce a great variety of symptoms, that one apparent symptom can have a broad range of causes. Whatever the cause, it is the manner in which it results in making reading an unnatural event, an inability to connect the meaning of the child's experience to what he finds in his classroom, that must be the focus of the schools.

Cop-out #9—Assumption that solutions lie mainly in helping the child adjust to school-determined environments.

The curriculum is too often taken as a given and failure defined as an inability to perform on designated tasks. A failure is thus inevitably the pupil's. It appears that we badly need prosthetic (supportive) strategies and tactics. (14) There can be far more extensive development of: 1) prosthetic devices—our educational instrumentation lags far behind our space age technology; 2) prosthetic techniques—approaches which will guarantee "a better fit" between the teacher's approach, the curriculum, and the learner; 3) prosthetic environments can be constructed so that reading and non-reading are seen in a broad social context. The broad social scope of reading problems will not be resolved by individual or simple addition of approaches. A prosthetic environment would assure full access to society. This approach would mean schools and curriculum designed by full participation, and for full utilization of the educational discards—rather than forcing all children to fit into a predetermined curriculum based on middle-class assumptions.

Cop-out #10—Assumption that more and better research, curriculum and teaching techniques will resolve the majority of reading problems

We clearly need all the help we can get; however, no magical technique, or phenomenal research breakthrough will take reading problems out of their social context. The critical resolution of reading problems is dependent on political solutions. In a time of budgetary cuts and frantic competition for scarce resources, it appears that the poor who have the bulk of reading problems are likely to receive less support. This granddaddy of all cop-outs is an attempt to "throw snowballs in a volcano." (15)

The implications of rejecting the aforestated assumptions leads us to polar contentions, to wit: all children are educable; all cultures, ethnic, national and socio-economic, provide substance for learning and add richness to experience; that it is the school's job to integrate that richness into the generic core of a common political-economic cognitive map that is then maximally accessible to every child; that learners need to be active participants in their own learning; that each child should have space to connect his own experience to the school agenda in a climate of positive regard; that the available energy should be placed on reorganizing the environment as well as the techniques and devices that stimulate learning so that they fall within the child's reality; that there needs to be a range of alternative solutions and political involvement in advocacy for the child who has difficulty reading what we expect him to read.

Behaviorism versus humanism

How do we connect all these contentions with underlying conceptualizations that provide consistent, concrete, productive and accountable guidelines for what we do every day? This search leads us directly into the current steamy battle between behaviorism and humanism. (16) The contention here is that this is a forced dichotomy and that highly useful integration can be effected. First, what are the differences?

Humanists, whom I'd like to dub "the feather folk"—called variously by the opposition idealistic, romantic, fuzzy-headed dreamers—what are they really? They are people who make the person the unit of focus, who stress awareness *to an* increase of the conscious range of the person's behavior. They see perception as the basis of reality and behavior, and find a growth force toward health inherent in the nature of man, which if nurtured rather than abused will be highly moral and socially contributive. The main effort is toward understanding and promoting a fulsome sense of autonomous growth rather than developing a specific kind of behavior in a child. This often means a focus on changing the child's perceptions so that he has alternatives for viewing self and the world that would then permit the choice of alternative behaviors.

Behaviorists, whom I'd like to dub "the hammer people"—called variously by the opposition as reactionary, simpleminded response counters, people controllers—what are they really? People who do not speculate on internal causes, but who analyze surrounding environment, respect the power of reinforcement and the consequences of behavior and try, through scientific methodology, to facilitate normal development as well as cope with problems in an effective, efficient, readily replicable manner.

As the humanist looks at behaviorism, he sees the danger of narrowness at the expense of concern for the gestalt of learning, of specifying those behaviors most easily observed and measured and ignoring the degree to which they support or oppose an underlying philosophy or value. There is concern that a specific behavior rather than a continuum of appropriate behaviors would be established as criteria, that the teacher might become an elicitor of specific behaviors rather than an enabler of autonomous growth of children. He often does not see that the systematic turning over of contingency management to the child himself can free the teacher to accomplish more of the inter-personal, interpretive and intuitive tasks of teaching-learning.

As the behaviorist looks at humanism, he sees the laxity with which learning objectives are defined, the reality that "love is not enough," the lack of accountability for the deliberate provision of essential skills that make access to self-motivated learning possible. He often does not see that skills are not enough.

The conflict between humanist and technologist may well be resolved by combining the best of both. A more effective use of instructional technology is not contingent on the application of rigorous systems analysis techniques, but rather on changing some basic premises about the educative process, premises that are heuristic to the development of curriculum. (17) We must develop curriculum that consciously attends to the relationship between the cognitive and affective domain, between the student's instructional objectives and how he feels about them, that relates knowledge and information to the values that determine use, that combines the goals of mastery of concepts and skills with curiosity, risk taking, complexity and imagination in their application. (18, 19, 20). The learning-outcome approach to curriculum design has broad ties to both cognitive and stimulus-response learning theory and can refer to appreciations, understanding, attitudes, skills and awarenesses. (21)

Thus, though behaviorism does not address itself adequately to self-concept needs, mind, will, abilities, desires or motives, it provides structure for accountability used in the service of evoking compassionate competence in future adults. We can synthesize behavioral techniques with humanistic goals which offer directions for the kind of teacher behaviors that set the climate for generating learning in children. If we remember that what we are after is not a predictable robot who makes predetermined discriminations among prepackaged stimuli in a prescribed tone of voice, but rather a centered person who can think, work and relate to others compassionately and competently in a fast-changing world, we are then better equipped to address our task.

For the schools, the major focus of curriculum centers on reading. The ability to read is integral to social competence. Current court cases will probably hold schools accountable for achievement. For that we can rely on neither art nor machines. This means defining what needs to be taught and teaching it so that it is meaningfully learned. This means defining goals (value-constructs) and objectives (the measurable criteria that tell us those goals have been achieved). This means comprehensive reading programs based on student experience and that build value identification and choice into the management of concrete information and skills.

Make reading worth the effort

Consistent with an approach of behavioral humanism (22) we attempt to relate our analysis of the nonreader in today's schools with delineation of teaching approaches that are consistent with the behavioral humanist approach to problem-solving in the schools. This becomes a relatively simple task when we look at what the prospective reader is asked to read. We find that children's textbooks are not only condescending, out of the touch with the reality of children's lives, superficially optimistic (23), but seldom at the "right" reading level, often totally unrelated to the life experience of the pupil, too long, too dry, too phony, reflecting nothing of his life style or microculture and not based on any well thought out conceptualization of what people are and need in the reality of today. Should we not, as behavioral humanists, or humane behaviorists, insure integrity of content before we reinforce involvement with it? Should we not, as respectors of the child as well as persons accountable for his growth, develop a curriculum that gives him payoff for what he is, helps him learn from the wellspring of his own experience, how to think about what's around him, how it connects with and is different from the large-scale culture where he also lives, how to bring his receptive knowledge into useful expression and connection with meaning in the outside world? Should we not, in other words, make reading worth the effort in the fullest sense?

If fish were to become curriculum developers, the last thing they might discover would be water(24), for the last thing writers of children's learning materials perceive as sources are the children themselves and the microcultures that sustain them. If, however, the consumers were suddenly to become producers, the integration of biological, social and personal factors occurs naturally as children create their own reading materials, as each child expresses his reality in a product that becomes a shared learning experience for peers and teacher alike. Somehow children's books—written by children—are never condescending, always an expression of the child's own experience. They more frequently and powerfully confront hunger, cold, sorrow, pain, fear, loneliness, disease, death and war as well as pleasures and exultations than saccharine adult productions. They are almost automatically at the "right" reading level, just the right length, never too dry and, rooted in the child himself, always a treasure of meaning to explore. Functioning as a catalyst, the teacher activates the process, fosters the thinking, provides materials for the illustration, binding, cataloging and distribution of the emerging library and builds her planning around the concerns that emerge from the children themselves. Thus we avoid the disastrous tendency to purify, standardize and homogenize all the "peopleness" out of language. We can reflect richness in language, culture and experience for instance without creating special phonic spellings for the sounds of varied dialects. "I can dig where you're coming from" in standard English says much more to children than "I understand you."(10)

Perhaps the most dramatic change we can make in reading programs would be the active collaboration of teachers, parents and children in curriculum development. An example of this approach is underway in Hawaii—"A Child's History of Hawaii." This endeavor has involved parents, teachers, librarians and children in producing an authentic personalized history reflecting the varied cultures in the state.(25) What follows should be a Chicano History of Azatlan, a Black History of the U.S., etc. Parents and teachers have an important stake in the identity of children.

All children need the experience of knowing the excitement of cultural difference in the context of common human needs. All children need the experience of knowing "their" difference is a plus rather than a minimum in the context of common human learning. All children need to be able to "read" as much as they can, whether it be a contract with fine print, a repair manual, a cloud or an intimate moment. For that we are accountable and our accountability must emerge from a system founded on regard-for-the-child, for every child is a possibility.

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The Teacher as Playwatcher

Elizabeth H. Brady

As legislation implementing the recommendations of the Early Childhood Task Force goes into effect, it is crucial that early childhood programs reflect what we know about how children learn and develop. Quite a few years ago I visited a kindergarten with a friend with whom I was going to make some films. We went first without a camera to familiarize him with the activities we would be filming; he had not been in a classroom for young children for perhaps thirty years. As we left at the end of the morning, he sputtered, "Those teachers! Why, they're nothing but a bunch of playwatchers!"

I said then and feel now that he had coined an elegant term for designating what a good teacher of young children does. As the teacher watches and responds to the child's play he finds ways to facilitate many dimensions of learning.

Sadly, today, one rarely sees teachers involved in playwatching, except in nursery schools. Nor is there much play in kindergartens and primary grades. Games, perhaps, but seldom play; there is very little play in schools. There are exceptions, of course; yesterday en route to this conference I visited a kindergarten which was lovely. There was much and varied play going on simultaneously, with children free to move from the dramatic play area, to the outdoor wheel toys, to woodwork construction, to painting, to musical instruments, to an area where children were cutting out paper figures traced from their own shadows at different times of day. I was a delighted playwatcher for half an hour. Yet there is very little opportunity for most teachers to observe children in such activities.

Play is the child's estate. Through play children learn, master, imagine, fantasy, become socialized and human. Eveline Omwake has stated the case well(1). Today I propose not to argue the functions of play in child development; these have been well documented by Sutton-Smith(2), Erikson(3), Almy(4) and others. Rather, I want to suggest why so few teachers are playwatchers and what might be gained were they to engage in this delightful pursuit.

Somewhere along the way from Sputnik, play ceased being legitimate in school. Last week I was deploring to a principal the absence of block play and dramatic play in kindergartens where children spend literally all their time marking work sheets, first for reading and then for math. She gently corrected me, "Dramatic *representation* is the term we use," she said. This recalled another principal years ago who was angry with me for suggesting that designating block activity "work" instead of "play" was silly. I argued that *play* is an acceptable and more richly meaningful word. When we are compelled to say dramatic *representation* and block *work*, something has happened that is not really congruent with what we know about children and how they learn.

In fact, many teachers do not understand this. Recently, I attended the Reiss-Davis Annual Institute for Teachers. In the discussion group the chairman, a psychiatrist, introduced himself and commented that he enjoyed working with this program because of his interest in human development and his conviction that the teacher is a key person in fostering development. One first year teacher reacted, saying that she really didn't know much about children, had never had younger brothers or sisters, and hadn't been around children much until she did student teaching. This prompted me to ask how many of the dozen teachers present had studied child development in the course of their preparation. Only one admitted that she had, as part of a course in psychological foundations. Others conceded that their educational psychology course had been concerned mainly or only with learning theory. Rarely was attention given to the study of child development or, still more important, to observation of and interaction with children, individually and in groups. It was evident from the ensuing discussion that teachers, new or experienced, spend much time and energy speculating on why individual children behave as they do and seeking ways to be more effective in helping children, but do so without knowledge about what has been learned by students of human development. The 1970 Law on Credentials and Licensing limits professional study in California to nine units of work prior to student teaching; the first thing that happened on our campus was to reduce by one unit the study of psychological foundations which normally includes child development.

I am suggesting that lack of knowledge of child development leads teachers to neglect play as part of the educational process. Like the young teachers just mentioned, I began teaching high school English without ever having had one moment in the study of human development, none at all. There was much about adolescence I needed to know. Happily, when I went on to graduate school at the University of Chicago I came into contact with a major study of human development, conducted by Daniel Prescott for the Teacher Education Commission of the American Council on Education(5). That study had been demonstrating that, if you wish to improve the quality of teaching, the activity which helps most is for teachers to study children. It wasn't having more units in a major, or more methods, or newer materials (this was before the era of "teacher-proof" materials); it was having teachers attend to the study of an individual child with others helping them to interpret what they saw and learned.

Out of that program grew teacher-led child study groups which sprang up all about the country. Consultants from the Institute for Child Study at the University of Maryland for twenty-five years have worked with these study groups, bringing information about theory and research and helping teachers understand the behavior they are discovering. Thus teachers who had had no work in child development in their earlier preparation could have it as part of a very meaningful in-service education.

This sounds like ancient history. But we lack a sense of the history of ideas in education; too often ideas which are meaningful and useful are lost as we hasten to adopt what is new. Currently, it is interesting that one of the sources of influence on the British Infant School has been the Eight Year Study of the Progressive Education Association in this country in the 1930's. The publications of that study(6) appeared at the beginning of World War II and were lost to most students here, but not in England, as Edward Yeomans has pointed out(7). The study of child development remains a central aspect of teacher preparation programs in England.

A second reason for the reduction in playwatching is that few teachers see themselves as the central decision maker in the classroom. They give the task of getting through programmed materials such a high priority that they lose sight of their role as the person who must make the significant educational decisions. Every teacher knows more than he knows he knows. When I go into a classroom to help, part of my job is to bring back to the level of awareness what the teacher knows but has forgotten he knows, things he has learned through working with children.

This relates closely to a third factor I want to talk about, the pressure for accountability. The pressures are there, whether through legislation or something else. This pressure leads to a distortion of attention to the central aim of education, the development of the child. An example came to me recently from a first grade which is part of our evaluation study. A child was cutting words from one sheet and pasting them on a second work sheet. She finished, came up and put the completed sheet on the teachers desk. Then she went to a shelf, took up a book and began to read. The teacher asked what she was doing and the child replied, "I'm finished." The teacher's response was, "No, you're not. Put the book away." Then she gave the child another work sheet. This brief example is somehow prototypic of what I am referring to. Getting through that series of programmed work sheets has become the preoccupation of the teacher; she has lost sight of the fact that the only reason to do work sheets at all is to foster reading skills. If a child is eager to read from a book why hold him to work sheets? This is doubly critical; reading as an aspect of communication is being lost to reading as practicing recognition skills. Along the way, meanings will also be lost. Children may do well on tests, but test results don't tell us much about whether these children are readers who get meaning from reading or whether they will ever be readers who can both use and enjoy reading.

Related to the accountability element is a confusion which I think permeates kindergarten and primary schools, a confusion about what cognitive development is.

There is much talk about the "new" emphasis on cognition in schools. Programs of reading instruction in the kindergarten are proudly displayed as evidence that the school is cultivating cognitive processes. Test results are published to prove the school is doing its job. Often such programs are merely fostering low level academic skills. Recognizing letters of the alphabet, learning to write numbers from one to ten, identifying shapes and colors have little to do with development of cognition. A child playing with blocks and deeply absorbed in the process is selecting, estimating length and weight, planning an overall structure, selecting accessories, matching and sorting—all true cognitive activities. As he puts away blocks he sorts, matches, measures, tests weights, aligns similar sizes, all raw material for the later work of mathematics. Cooking activities are fun and stimulate thinking about transformation of materials through heating and cooling, measurement, estimation, cultivation of and discrimination among sensations. Yet such activities are seldom offered as evidence that the school is fostering cognitive development.

Evelyn Gilder recently completed a graduate project at CSUN (8). She had used the SWRL Instructional program in her kindergarten when she was asked to do a pilot try-out several years ago. She did. The program provides for instruction in ninety-six concepts. She conducted it according to the manual and administered the criterion measures provided at the end. The children passed the measures very satisfactorily. Meanwhile she had begun to have concerns about the program. In many exercises the child doesn't have to speak; he merely points to the drawing which illustrates the appropriate word, such as "thick" versus "thin." She had begun to feel that what she was getting from children was vocabulary recognition without the concepts the words represented.

For her project, she took the same list of concepts and developed a child activity program which she conducted in her classroom for the same period of time. It involved exploration of many concrete materials. For example, for "thick" and "thin," only one "lesson" is provided in the SWRL program; the child points to a drawing of a thick or thin sandwich. Mrs. Gilder brought into the classroom bread, salami, bologna, lettuce and pickles; the children made sandwiches and considered such questions as: "If you want to make a sandwich thicker, what can you do?" Add another slice of salami. Or, "how thick a sandwich can your little brother manage to eat?" They worked with clays, shaping thick and thin slabs and objects and with other materials in similar ways. To her delight and mine, at the end of the same length of time she used the same criterion measures and all were passed at a higher level, significantly higher. And the children had had fun. It was apparent that the concepts had been mastered and additional social and affective goals had been achieved as well. Classroom teachers can and must develop such programs. Otherwise it is too easy for districts to accept, unexamined, materials marketed under the claim of fostering cognitive abilities which deal only with superficial learning. Without developing underlying conceptual structures, children may only appear to have mastered concepts; if they have not, there will not be transfer to new situations.

It is important also that they had fun. There is a kind of joylessness in many classrooms. There seems to be uncertainty about whether it is all right to have a good time in school. I was recently asked to help develop a reading environment in a school; I sent some notes and then was asked to come to meet with the resource teacher, a consultant and the principal. When we began they asked, "What could we help a teacher do that would require the least change on her part but would begin to develop a reading environment." I told them that, in going over my notes, I had seen a major omission. I believe every child should have an opportunity to be read aloud to every day from a book that the reader enjoys. Their reaction was, "Nobody in this school does that! But it *is* a good idea." Enjoyment is an important part of the reading aloud process. As a child I went to a two room school; every Friday the teacher read aloud to us all afternoon. And she was clearly as delighted with the activity as we as listeners were.

The consultant then remarked, "Ah, that's good. The adult would be a *role model.*" I really hadn't thought about that. Of course he would be. But my private reaction was "Even so, why do we have to justify reading aloud as providing a role model? Isn't it enough that it be fun?"

Why has enjoyment become a problem instead of a help in learning? In one project the teachers are working toward more flexible open structure classrooms. One young teacher remarked that when the children are busy and active she doesn't feel as though she is teaching. Obviously this makes her uncomfortable.

Play *is* child's work. Omwake (9) has noted:

> To the close observer the expression of pleasure which accompanies the mastery of a difficult task appears as frequently and genuinely in the hard work of play as in the hard work of formal learning. The "Look what I did!" shout of the young block builder when his high towered structure stands on its own and the satisfied look on the face of a boy or girl actively playing astronaut express a quality of self appreciation comparable to that experienced when he or she announces "See how I write my name," proudly waves a perfect spelling paper, or participates in a school assembly program. In the children's vernacular it is entirely logical to announce with pride and exuberance, "We're working," to adults who consider them to be at play.
>
> It is well to keep in mind that the play of childhood, while essentially serious, is also gay, exuberant, amusing, and delightfully entertaining both to the child cast and the adult audience.

The whole distinction between work and labor proposed by John Dewey years ago and discussed by Dennis (10) recently is one which deserves more attention. Work is very unlike labor; labor is coerced, not intrinsically rewarding and done for some extraneous reason, not for the sake of the activity itself. Play is child's work. Work sheets are more like labor. Somehow I feel the young teacher mentioned above has accepted a notion that she is "really teaching" only when it feels like labor; she doesn't trust work for either herself or the children nor recognize the value of play as work.

I have tried to point to four of the reasons for the loss of play and playwatching: failure to study human development, the removal of much of the decision making process from the teacher's control, the pressure for accountability which has brought masses of "stuff" into the school(including pounds of objectives), and finally the loss of joy in the classroom.

If teachers are to become playwatchers again, it is necessary to detach themselves from preoccupation with achievement in the future so they can provide an optimum experience for children now. The teacher must be able to trust the rightness of the child's judgment about what's right for him now, the validity of the child's sense of what's good for him.

What kind of model of the child as the learner do teachers have? Kohlberg and Mayer(11) examine three major models of education as they currently and historically have existed, and advocate the approach they title Development as the Aim of Education. Can the teacher think of the child as constantly active, creating meanings as he processes information from the environment? If so, then he can feel comfortable fostering an environment for play.

As teachers become playwatchers again, there will be rewards for them. David Hawkins,(12) the philosopher, has observed that intellectuals who want to learn more about how human beings become human would do well to spend time with young children. He, also, refers to the child's estate, saying:

> Thus, I am of two minds about the greater involvement of intellectuals in the processes of early education. If the effect is to intensify the embargo on leisurely enrichment of childhood, to press harder for attainment, I have doubts and am troubled. If the effect is that the intellectuals should savor more of that other estate, and should become, in the process, a little more like children, it seems to me there could be great gain, both educational and intellectual.

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Early Educational Experience: Results and Implications*

*Cynthia C. Siebel***

The special conference theme, "Reading Between and Beyond the Lines," suggests an active process of discovery and interpretation, rather than a mechanistic process of recognition and decoding. Learning to read "between and beyond the lines" necessarily involves not only what is obtained *from* the reading process, but also what is brought *to* the reading process. Considered in this manner, reading is developmental in nature—growing with the child and his experiences, and inextricably inter-twined with and inter-dependent upon all of the child's other development. Consequently, all of a child's experiences, including very early educational experiences, can be expected to be crucial in determining the eventual outcome of the process.

There is ample evidence to support the pervasiveness, the subtlety and the strength of various early experiences in multiple areas of animal and human development (for example, see Denenberg, 1970a, 1972; Thompson and Grusec, 1970). Although there have been questions concerning the extent of reversibility of early experiences (Dennis and Sayegh, 1965; Kagan, 1972), the preponderance of evidence strongly suggests that the results of early experience are generally important determinants of future developmental trends. Certainly, it seems clear that "critical periods" exist in many aspects of development, during which change occurs readily and before or after which change is extremely difficult, if not impossible (Bloom, 1964; Fiske and Maddi, 1961). In order to be maximally effective, educational experiences must coincide with any appropriate critical periods.

Within the overall body of evidence concerning the effects of early experience, environmental enrichment is a dominant theme. The role of multiple and diverse stimuli in facilitating development (within the boundaries of perceptual receptivity and order) has been well supported as a basic principle, although not fully developed in specific determinants (Hunt, 1961, 1966; Krech, *et. al.*, 1962; Wilson, *et. al.*, 1965; among others).

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Unfortunately, there is not a great deal of empirical evidence bearing directly upon the consequences of specific early experiences or environmental enrichments upon human development in general, much less upon the development of reading. However, it is reasonable to conclude that the successful development of cognitive abilities, and consequently of learning to read, depends upon three primary, global needs which begin to be both influenced and influential very early in a child's life:

First, a child needs a broad range of experiences, which provide not only the fund of information necessary for making meaningful identifications, but also the raw material from which are built increasingly complex cognitive structures,

Second, a child needs a verbal environment, which provides information, stimuli, models of varied language patterns and multiple language uses, and also the opportunity to develop language facility through use and positive reinforcements, and

Third, a child needs a positive sense of self and of the world's reactions, which provide the confidence and security which allow experiences to be used to acquire new skills and abilities.

One way to promote utmost development of each child's potential would be to establish environments which meet these needs very early in the child's development. The study discussed here* suggests an approach to such an environment which indicates that educational/care experiences can contribute to the fulfillment of developmental needs and promote the development of social behavior, inter-active behavior and language productivity.

THE PRESENT STUDY

The Children

The children focused upon in this study were eight three-year-olds enrolled in a university laboratory nursery school. Each of the children in this experimental group had been provided with very early educational experience in one of the two situations described below.

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* Since the study is a small scale, pilot project, the results presented and discussed should be considered only as suggestive.

For purposes of comparison, a control group of children was chosen from the other children who were enrolled in the same nursery school class, but who had had no regular or continuing pre-nursery school group-care and/or educational experience. The children in the control group were matched to those in the experimental group for sex and age.

The Early Education Programs

The Long-term Program. The first, or "long-term," early education program began when the children were 16 months old. At this time, three females and two males began to meet one afternoon a week (three to five hours per session) under the care of a para-professional "teacher/caretaker" (with the supervision of a developmental psychologist). The children were from upper middle class, professional, suburban families, and were chosen on the basis of their parents' desire for such an experience, the ease of arranging weekly sessions, and a high probability of stable, non-mobile families.

The weekly sessions took place in a home setting, to which were added additional blocks, simple craft and art materials, simple puzzles, books, an indoor toddler's climbing apparatus, dress-up clothes, and miscellaneous dolls and "educational" toys. The sessions varied in content, attempting to follow the apparent and expressed interests and needs of the children, but focused upon exploration and discovery, communication, joint activities, and rudimentary inter-personal dynamics.

The Intensive Program. The second, or "intensive," early education program began for five other children nine months later, when the children were 25 months old. At this time, five females began to meet three afternoons a week (approximately three hours per session) under the tutelage of a professional preschool teacher with one para-professional aide. The children were from families whose backgrounds were comparable to those of the children in the long-term program and were enrolled primarily due to their parents' desire for such an experience.

Both programs ended when the children were 31 months old. Despite the fact that one program continued for 14 months (summer vacations briefly interrupted the long-term program), while the other continued for only six months, the total number of hours of contact was essentially equivalent for the two programs (long-term = 208 hours; intensive = 216 hours).

The Post-program Experience. Three months after the culmination of the two programs, the eight children involved in this study entered the same class at the university laboratory nursery school. (One male from the long-term program was enrolled in another nursery school; one female from the intensive program moved to a distant city.) A total of 18 children were enrolled in the nursery school class, with one head teacher, two full-time assistant teachers, and a number of part-time student teacher-aides. The program at the school is flexibly individually oriented and has much the same content and focus as the two early education programs.

The Data Collection

In order to study the social development, interaction and verbal productivity of the children, a Social Participation Scale was developed* assessing twenty behavior items such as type of play, brief and extended conversations, response to peer and adult approaches, hostility, etc. Using this scale, a trained observer watched the children during non-teacher directed, "free" play and recorded the frequency of occurrence of the scale items. The social behavior of every child was observed for twelve segments of five minutes each, or for a total of 60 minutes. In so far as possible, the order of observation was randomized, although an attempt was made to complete one set of five minute segments for all children before beginning another set.

THE RESULTS OF EDUCATIONAL PROGRAMS

In order to assess the results of the children's early education experiences, two kinds of comparisons were made: first, the behavior of the combined early education experimental group was compared to that of the control group, and, second, the behavior of the children from the long-term program was compared to that of the children from the intensive program. Comparisons were made in terms of overall interactive behavior, play behavior, communicative behavior, initiatory behavior and responsive behavior.** In general, the children with early educational experience seem to be more advanced in their behaviors than are the children without such experience, and the children from the long-term program seem to be more advanced on most of the behavioral dimensions than are the children from the intensive program.

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* Based in part upon a more restricted scale developed in conjunction with Lori Siemens Peterson for her unpublished senior thesis, "A study of the relationship between self-concept and social participation behavior in very young children," Scripps College, 1971.

** Unless otherwise noted, all results reported are statistically significant at or beyond p = .05.

Overall Interactive Behavior

A child who is advanced in social development behaves in an interactive manner with his peers, and, presuming an independent rather than dependent mode, with the adults in his environment. This interaction allows full investigation of both the inter-personal aspects of the environment, and, indirectly through the increased variety of stimuli and activity introduced, the non-inter-personal aspects of his environment. While a non-interactive child may discover many things about his world, he is deprived of the variety of viewpoints and diversity of approaches to materials and problems that are the results of interactive behaviors. For this reason, overall interactive behaviors provide an indication of the extent of the enrichment actually present in a child's life. Within normal boundaries, it can be assumed that a child who has a proportionally high level of interaction with his environment creates for himself an environment which is essentially more enriched than that of a child who remains engaged primarily in isolated activities. Thus, an interactive child both utilizes his environment more fully, and is more likely to fulfill the needs suggested as important for cognitive development.

Early Education vs. No Experience Groups. Considering all behaviors observed, the children in the combined early education group show very different interactive behavior (e.g. social types of play, initiated and responsive conversations, etc.) than do the children without such experience. Primarily, this difference stems from the greater percentage of total behaviors which are interactive in the early education group (70.22%) as compared to those in the control group (55.23%). Conversely, the proportion of behaviors that are non-interactive (non-social play types, non-responsiveness conversationally, etc.) is considerably greater for the no experience group (44.77%) than for the early education group (29.78%). The early education group was more involved with peers, as compared to adults, than was the no experience group. Further, the interactions with adults of the no experience group tended to be of an attention getting or approval seeking nature. Taken together, these findings indicate a less mature, more adult-dependent interactive pattern on the part of the children who had not had early educational experience.

Long-term vs. Intensive Programs. The particular type of early educational program in which the children were involved did not seem to make a major difference in later overall interactive behavior. The percentages of total interactive and non-interactive behaviors do not differ between the two groups, nor do the percentages of peer and adult involvement. Although, there is a tendency for the children from the intensive program to seek attention or approval from adults more frequently, the number of behaviors involved is too small to warrant any firm conclusion.

Play Behavior

Past studies (Barnes, 1971; Parton, 1932) have suggested a developmental progression in play, with the proportion of time spent in differing types of play changing as the child grows older. The play of older children is regarded as more interactive in nature, and socially more advanced. Therefore, if the play behavior of the children from either or both early education programs includes more advanced types of play than does that of the control children, it can be argued that the early educational experiences have facilitated social development.

Early Education vs. No Experience Groups. The percentages of total play time spent in the various types of play do show rather dramatically more interactive and advanced play on the part of the early education children. A smaller proportion of total play time is spent at all levels of non-social play (unoccupied, solitary and onlooker) by the combined early education group (54.28%) than by the no experience group (76.06%). The reverse is true for all levels of social play (parallel, associative and cooperative), at which the combined early education group spent proportionately more time (45.72%) than did the no experience group (23.94%). While, as would be expected from previous studies, most of the play time of both groups is spent in solitary, onlooker and parallel play, there is a significantly greater amount of the unexpected, more mature types of play (associative and cooperative) in the early education group (23.15%) than in the no experience group (10.40%). It is clear that the early education children spent more of their play time in advanced, interactive levels of play than did the no experience children.

Long-term vs. Intensive Programs. Although the total amounts of time spent in over-all social and non-social play are not different between the children from the two early education programs, there are several important differences at specific play levels. At the two extremes of the progression of play types, the children from the long-term program spend a smaller percentage of time engaged in unoccupied play (1.67%) than do children from the intensive group (2.67%), and a larger percentage of time engaged in cooperative play (6.21%, as compared to 2.47% in the intensive group). When only the social types of play are considered, the long-term program children spent proportionally more time in the most advanced level of play (cooperative), while the intensive program children spent proportionally more time (25.62%, as compared to 19.33%) in the less mature types of social (parallel) play. In other words, the pattern of play of the two groups of children shows more advanced social behavior at crucial levels of play types.

Communicative Behavior

The statement was made earlier that over-all cognitive, and particularily reading, development depends in part upon exposure to and use of verbal communication. Since increased frequency and complexity of verbal behavior is normally agreed to represent more advanced and mature levels of development (McNeill, 1970a,b; Smith & Miller, 1966), differences in those directions on the part of the children from either or both of the early education programs would indicate a possible effect of the early educational experience upon development in the area.

The nature of the study does not allow assessment of linguistic complexity; however, the degree of verbalness can be indicated by assessing the frequency and general type of verbal communication.

Early Education vs. No Experience Groups. Although there are no differences in absolute number of conversations between the two groups of children, within this total number of conversations, two interesting differences are apparent.

First, the manner of instigation of adult contact varies. While the total number of adult-child conversations is the same for the two groups, the early education children initiate a higher proportion of their conversations (65.75%) than do the control children (59.57%). Interestingly, it was also noted that the adults, possibly aware of the need for verbal exposure and usage, approach the no experience children more frequently.

Second the children from the early education programs engage in a greater number of conversations with their peers (N=481) than do the children from the control (N=411) group. Most of these conversations are brief conversations (defined as one or several word verbalizations initiated by the observed child).

Long-term vs. Intensive Programs. Several differences were observed in communicative behaviors between the children who had been involved in the two early education programs. First, the absolute number of conversations of the children from the long-term program (N=372) exceeds that of the children from the intensive program (N=292), with the difference essentially a result of peer conversations. Not only do these children tend to engage in a greater number of brief conversations with peers (N=226) than do the children from the intensive group (N=192), but they also initiate and respond to a considerably greater number of extended conversations (48 as compared to 17). Indeed, most of the extended conversations observed for the combined early education group are a result of behaviors on the part of the long-term program children.

Initiatory Behavior

A child who initiates activities and contacts with the people in his environment is making maximal use of the possibilities inherent in that environment, and is reflecting a sense of sureness about his own abilities and probable satisfactions or successes in that environment. Consequently, if differences in this direction are present in the children from either or both of the early education programs, the children can be said to be more closely meeting the developmental needs suggested earlier, possibly as a result of their prior early experiences.

Early Education vs. No Experience Groups. Two major differences in the expected direction exist between the two groups. First, as previously discussed, the children in the early education group initiate a higher proportion of conversational adult-child contacts. Second, the early education children initiate a higher proportion of cooperative play (78.38%) than do the no experience children (50.00%).

Long-term vs. Intensive Program. Although there are no differences in initiatory behaviors with adults between the children from the two early education programs, differences are present concerning the initiation of interactive behaviors with peers. On the positive side of this variable, the children from the long-term program initiate significantly more cooperative play (88.46% as compared to 54.55%). However, on the negative side of the variable, *all* of the hostile behavior observed (as well as the one instance of ignoring a hostile approach) involves the long-term children. The children from the long-term program seem to initiate more peer interactions of all types!

Responsive Behavior

A child who shows a high degree of responsiveness to the overtures of people in his environment is maximally utilizing the potentials of that portion of his environment in much the same manner as is the child who initiates a considerable amount of interactive behavior. Consequently, a greater responsiveness on the part of the early education children also would suggest both a greater meeting of developmental needs, and a possible facilitative effect of the educational experiences.

Early Education vs. No Experience Groups. Minimal differences in overall responsiveness are present between the two groups of children. In no case was a positive peer approach ignored by the children in either group. However, two differences which may influence the quality of interactive behaviors are apparent. Most important, the early education children show a strong tendency to be more responsive to the adults than do the control children. Although the adults in the environment tend to approach and to attempt conversationally to engage the control children more frequently than they do the early education children (p@ .07), the control children ignore a higher percentage of the total adult approaches (8.11%) than do the early education children (1.18%).

The second difference concerns the mode of response of the two groups. The early education group appears to utilize a greater range of responsive behaviors, and shows not only verbal responsiveness, but also greater positive and negative physical responsiveness (p@ .06).

Long-term vs. Intensive Programs. The children from both early education programs are equally responsive to the approaches of the adults. It is interesting to note, however, that the adults may have a tendency to approach the long-term children more frequently than they do the intensive program children (p@ .35). Although this finding is weak and could be the result of numerous causes, the observer-notes suggest that most of these approaches are the result of the greater initiative and expressed hostility of the long-term program children—these children are more frequently involved in situations that require adult re-direction or intervention. If this suggestion is valid, it raises the question of the quality of adult-child contacts for the child who behaves socially at a more advanced level than would be typically expected. Perhaps, along with the creative child (Getzels & Jackson, 1962) and the "unexpected spurter" (Rosenthal & Jacobson, 1963), the socially precocious child may reap the rewards of teacher disapproval.

The children from the two programs also differ in mode of responsiveness. While the long-term program children respond to peer approaches with both verbal and physical modes, a greater percentage of their total responses are verbal than are those of the intensive group children.

Summary of Comparisons

Early Education vs. No Experience Groups. Generally, the combined early education group seems to be very different in social behavior and development than the no experience group. Comparatively, the early education children play in a more social, interactive and advanced manner, converse with peers more frequently, initiate more cooperative play, and show a greater degree of involvement with peers than with adults. When they interact with adults, it seems to be on a more independent level, with less attention and approval seeking behavior, more positive responsiveness to adult approaches, and more conversational initiations. Overall, they display proportionately more interactive as compared to non-interactive behaviors than do the children without early educational experience.

Long-term vs. Intensive Programs. The contrasts between the early education and no experience groups seem to be highlighted when the two sub-groups of the early education group are considered. In many cases, a large portion of the differences between the two major groups is due to the behaviors of the long-term program children. In comparison to the intensive program children, the long-term children are more social and advanced in play, more conversant with their peers, more likely to display initiative (both positively and negatively!) and more verbally responsive.

(Subjectively, watching these children in the nursery school situation is a joy. They are active, buoyant, involved, interactive, verbal, expressive and independent. Informal observations correspond with the formal observations and statistical analyses—these children seem to fully utilize the potentials in the situation—and to create additional possibilities!)

IMPLICATIONS OF THE STUDY

The groups of children involved in this study are small, and the necessarily uncontrolled and possibly effecting variables are many. However, the differences found are of sufficient magnitude and interest to warrant continued investigation, and to suggest several tentative implications.

First, the study provides further evidence on the general questions of the effects and importance of early experience for human development. Once again, a positive, enriching, broadening experience has apparently facilitated development, and has done so without coercing, training or "teaching" the children, but rather by providing an environment which allowed and encouraged the children actively to experience and, thereby, to expand and develop.

Second, the long-term continuous program seems to provide a more facilitative environment for early social development than does the intensive program. This finding is basically consistent with those of several "compensatory education" programs (aimed at several years later in the developmental sequence) which have found "one shot" intervention experiences to have minimal or short term effects (Schaefer, 1970).

In this context, the apparent success of the long-term program suggests the importance of beginning group educational experiences very early and continuing consistently over a relatively long period of time. It is possible that the toddler through early preschool years form a "critical period" in human social development, when basic understandings of group relationships and the functioning of one's self within a group are most easily acquired. Certainly, the children in the long-term program were exploring their effects upon same-aged peers and the potentialities of group endeavors at the time in which, theoretically, they were engaged in the overall process of defining their own places in the world as independent beings. Perhaps, their senses of "autonomy" (Erikson, 1959) extended to include interactions with a group of peers, as well as with the material objects and adults within their world.

The long-term program not only provided a basically enriched environment and verbal stimulation, as did the intensive program, it also provided predictability, constancy and sureness, peer reinforcements over a lengthy period of growth, and multiple opportunities to utilize relatively non-discrepant peers as sources of slight variants on basic activities, approaches, relations, etc. If the discrepancy model (Hebb, 1949; Hunt, 1960; Piaget & Inhelder, 1969) is correct, associations with those who exhibit "difference within sameness" should maximally facilitate development, especially in the early preschool years, when exploration of various interactions with the world is an integral part of successful development.

A third set of implications is quite pragmatic for the current consideration concerning establishing infant day-care programs. There is evidence in the study to suggest that paraprofessional teacher/care-takers can be very effective in facilitating development, and, also, to suggest that a home setting can be very effective. Further, there is the suggestion that contact need not be massive. In terms of the children's total experience, the early education programs of this study were very limited. The study provides no evidence, of course, on the possible variability across socio-economic and cultural groups in the relationship between amount of contact and corresponding effect, nor does it explore the question of the minimal amount of contact necessary for maximal effect. Nonetheless, the possibility exists that early educational experiences of this sort need not be massive in order to be effective.

This set of implications leads to the suggestion of a possible model for infant educational experiences which would make efficient use of limited resources, as well as utilize the familial involvement and community setting which other researchers have shown to be crucial for large and long-lasting increments of change (Klaus & Gray, 1968; Denenberg, 1970b). If the findings of this study can be replicated under larger and more controlled conditions, it would be reasonable to suggest that several small group situations, similar to the long-term program described here, could be established under the direction of a single trained para-professional teacher/care-taker, each meeting on a different day of the week in the home of one of the children, with the teacher/care-taker's additional time devoted to the home visits found to be so effective (Klaus & Gray, 1968).

It seems reasonable to assume that such an arrangement would provide the essentially enriched environment, verbal exposure, and sense of self which determine the level and success of cognitive development and, consequently, contribute to the development process of learning to read "between and beyond the lines."

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Reading the Language of Teacher and Student in the Classroom

Patricia McNaughton

The permanent theme of this conference is "Reading is the process of making discriminative responses." Such a statement implies a much broader scope than simply a response to the printed word. Within an educational framework it may involve meaningful responses to verbal and nonverbal stimuli in the classroom environment on many levels.

The intention of this discussion is to expand the level of awareness of the function of language in the social context of the classroom. What will be presented is a socio-linguistic model—a paradigm of the teacher and student speaking within the social system of formal education in the typical setting of the classroom.

Language, particularly oral language, is a social activity. Whether your concept of language defines the term as a theory of grammar, a vehicle of creative imagination, a means of communicating ideas, or a channel for rhetorical discourse, the individual is constantly using this category system, this taxonomy of the culture, in his everyday experience. Language serves three functions in the social context: it facilitates the expression of the speaker's experience of the world; it establishes and maintains social relations; and it allows for a selection of semantic options in the particular speaking situation (Halliday, 1973).

Classroom dialogue is one form of typical verbal interaction. In this context, one of the speakers structures the pattern of discourse under which the other participants are to operate. The student is socialized by the teacher as to his obligations and expectations for contributing to the classroom verbal behavior. Some of the other factors acting upon such expectations are the classroom context itself, the grade level, the subject matter, the teacher's perception of her role, and the society's requirements for formal education.

Interaction of social role and language

Social constraints on classroom discourse are generally covert or implicit. Yet they are specific enough that we can make some fairly accurate predictions about the sort of verbal behavior we might expect from an individual performing the role of teacher. For example, imagine the teacher in the classroom presenting a lecture interspersed with questions directed at the students. She may use some other strategy for presenting her lesson plan, but, given the amount of time she has with any particular group of students and the amount of material to be presented, the teacher will probably be the most active speaker of the group. Most of her remarks will relate to the subject matter or ongoing class procedures.

Now, we might give the teacher a coffee break. She goes to the faculty lounge where several other teachers are engaged in talking and eating. She sits with a friend to discuss a movie they will be attending together that evening. The dialogue may include remarks concerning the movie and perhaps some comments on how the school day has proceeded.

We can see from these two situations, with the *same* person in both contexts, that the speech used is relatively constrained by the demands and expectations of the social environment. This is in addition to the individual personality involved in experiencing and expressing this language. We can also understand how these social role requirements help to predict the degree of formality or casualness we may expect to find engaging participants in particular settings.

Two interesting studies on the effects of role change on children's language further illustrate the interaction of social role and language within the classroom context. Researchers (Conn, 1970; Herbert, 1970) observed sixth-grade children both as students in their regular classrooms and as tutors for third-grade children. Results indicated that the language production of the children when in the tutor role was more complex than in the student role, with the tutorial role seeming to facilitate a greater variety of questions, statements and commands.

These findings lend support to Gumperz' (1964) theory that individuals possess verbal repertoires, with the particular style varied according to the topic, listener, and environmental setting. Fodor and Garrett (1966), and Lawton (1968) also suggest that the speech one uses in a particular situation reflects his linguistic competence, motivation, beliefs, attitudes and psychic state. The individual draws from his language repertoire only those structures required by the specific social situation.

Language use in classrooms

Flanders (1963) presents a model of teacher verbal domination in the classroom expressed as the "rule of two-thirds." Of two-thirds of the time spent in the classroom, someone is talking; the odds are 2:3 that this person is the teacher; and two-thirds of his verbalizations consist of expressions of opinion and fact, directions and criticism. The role pattern of the teacher which the student is exposed to generally consists of that of an instructor who directs him via language as to what to do with a subject matter, when he is to be finished with it, followed by an evaluation of how well he performed according to the teacher's criterion.

The social model of the formal educational setting includes a classroom occupied by an adult labeled as 'teacher,' and one or more other persons labeled as "students." Bellack and his associates (1963) have explored the teaching process within such a model "through analysis of the linguistic behavior of teachers and students in the classroom." Their concept of the nature of language meaning is based on the philosopher Wittgenstein's view that verbal activity follows rules and conventions according to the context in which it occurs.

The Bellack group viewed classroom discourse as kind of language game, with the basic move defined as a pedagogical move. Such moves are classified into the categories of structure, solicitation, response and reaction. The results of their study support the assumption that the participants in the classroom follow a consistent pattern of language rules. The object of the classroom game is to carry on a verbal discourse about a subject, with the payoff measured by some amount of learning determined by the teacher and displayed by the students. Bellack and his associates stress that "these are the rules of the game *"as it is played, not necessarily as it should be played."*

The typical verbal sequence of pedagogical moves includes a solicitation by the teacher, a response by the student, followed by a reaction by the teacher. These categories account for 75% of the verbal moves made in the Bellack study. If this question-and-answer interaction pattern is a fundamental aspect of classroom discourse, it would seem relevant to evaluate its pedagogical effectiveness for student learning.

Three recent studies have focused on this type of teacher-student interaction. Wright and Nuthall (1970) investigated short-term effects of teacher behaviors on elementary student performance. Their results suggest that greater pupil knowledge of subject matter is produced by the teacher who (1) asks relatively direct questions; (2) tends to provide an informative summary at the end of a discussion rather than at the beginning; (3) redirects each question to several pupils; (4) makes frequent use of thanks to student responses; and (5) provides comprehensive revision at the end of a lesson. The authors emphasize that these results should not be considered as a prescription for teacher behavior. But for our purposes they do demonstrate that variations in teacher verbal strategies have a measurable effect on student learning.

A study by Hughes (1973) examined overt pupil responses to teacher questions. Results of three experiments indicate that "pupil participation, in the form of overt pupil responses to teacher solicitations, has very little effect on achievement. . . ."Subjects studied were twelve-year-old children, and Hughes suggests that youngsters by this age have learned to control their attending behavior in the classroom whether or not they expect to be asked to respond overtly. There was no significant difference on posttesting among groups in which random response, systematic response, and self-selected response were varied. Nor was there any significant difference on test results between two groups in which all the questions were randomly directed to the experimental group while the control group made no overt response. Another finding by Hughes indicates that "positive teacher reactions facilitate pupil achievement more than minimal teacher reactions." Frequent praise, support for incorrect answers, and mild reproving were more enhancing to student learning than no reaction or a minimal negative/affirmative response to a student remark.

Another study focusing on question-and-answer behavior in the verbal dialogue of the classroom is that of Barnes (1971). He investigated "the interaction between the linguistic expectations (drawn from home and primary school experience) brought by pupils to their secondary schools, and the linguistic demands set up (implicitly or explicitly) by the teachers in the classroom." Barnes examined such questions as the quantity of speech initiated by the teacher, the method of dealing with inappropriate verbal contributions, whether the teacher's linguistic style or vocabulary level was beyond the students' range, and the level of formality expressed by the teacher's utterances. Results indicate a preponderance of factual and simple reasoning questions from the teacher, even in humanities classes. The implication drawn is that learning is a passive, receptive process at this stage, with the student's goal as the calculation of the teacher's criteria for relevance of material to be learned.

Conclusion

What are the implications for the teacher concerning the interaction of social role and language strategies, between the societal constraints on language and the classroom setting? It is suggested that greater awareness of the influence of his speech as a verbal role model, of the potential gulf between the specialized language of the subject and the linguistic frame of reference of his students, and of the constraints of social relationships on verbal behavior would be valuable aids to the teacher in extending effectiveness in the classroom context.

Language is a creation and a reflection of culture; it is the principle tool in the individual's acquisition of knowledge about his world. The teacher's verbal presentation of a subject matter provides social data beyond the manifest content of word. As Barnes (1971) states:

> Not only is the teacher-class group a social microcosm, but one which also interacts with the social macrocosm of which it is a part. And as the complicated commerce within the group is largely carried on through language, so is it largely through language that society explicitly or covertly defines and limits the activities of the group. Thus, to study the language of the classroom is to study both the learning processes and some of the internal and external constraints upon it.

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When Does Reading Make a Difference?

Fehl L. Shirley

Personal involvement in reading can make a difference. Identification with characters or situations can lead to apperceptions of one's worth in the worldly scheme. Such insights can in turn lead to decision making and actions implementing these decisions. According to Gandhi, Ruskin, and Thoreau, it was dishonest not to practice an idea accepted in principle; belief and action must go together. Reading can influence an individual to behave in a certain way or to decide upon future behavior. Reading that makes a difference contributes to decisions and actions based on the clarification of values. In this way, personality is integrated toward self-observed goals.

SELF-INVOLVEMENT REACTIONS: QUALITATIVE ANALYSIS

Individuals exhibit varying responses of self-involvement in literature. The reaction to reading may be considered as a continuum from apathy and indifference to intense empathic involvement which, sometimes, leads to reoriented goals and actions implementing these goals.

Famous personalities have described the impact of their encounters with particular authors and writings. The *Bhagavad Gita* was Gandhi's daily guide and started him on the road toward observance of "ahimsa" (non-violence). Cycles of influence were portrayed by Darwin, Wallace, Burbank, and Sanger, all concerned with the "struggle for existence" (a phrase used by Malthus in his book on philosophical biology, *Population*). For some, reading was intellectual and aesthetic inspiration; for others, intense participation and empathic involvement.

Persons of all ages have reported the impact that reading has had on their concepts, attitudes or behavior. In studies by Compton, Russell, Lind, Smith, Strang, Weingarten, and Squire (1, 2, 3, 4, 5, 6, 7), individuals reported introspectively and retrospectively that reading had influenced them in many areas of their lives and in a number of related dimensions of self-involvement.

A study was made by the author (8) of the reactions of four hundred and twenty adolescents to reading, using a modified critical incident technique, (9) for the self-observations of internal behavior. The students themselves reported how reading had influenced their concepts, attitudes or behavior. As Strang said, "Only the individual knows how he thinks and feels and what experiences mean to him."(10) She emphasized the individual's response to the "situation-as-perceived:"(11)

> Psychologists have increasingly emphasized the importance of studying the way an individual perceives a situation. . . . The way the person perceives himself in relation to the situation largely determines how he behaves and what he learns. In the phraseology of gestalt psychology, a person responds to the "situation-as-perceived." His perception, in turn, depends on his ability and background, the immediate time and place, the interpersonal relations involved, his unconscious motivation, his previous experience.

The questionnaire was the major instrument used, supplemented and validated by interviews and case studies.

A qualitative analysis of the reported reactions of the adolescents revealed seven dimensions of self-involvement: the indifferent, the observer, the partial participator, the intense participator, the self image synthesizer, the construct synthesizer, and the decision maker.(12) A description of each kind of response as well as comments of prominent personalities and adolescents illustrating each category are given herewith. The indifferent category exhibiting apathy and disinterest is omitted as this paper is concerned with reading that made a difference.

THE OBSERVER

The classification of observer response is concerned more with external judgment than with the feelings of characters. The observer, removed from the immediate scene of the story, evaluates events and characters as an outsider. He retains his own individuality. In this category there is less of the feeling response than was included in Squire's study.(13)

A representative comment of the observer was given by Carlyle, responding intellectually and aesthetically to the style and structure of Samuel Johnson's Dictionary.(14)

> There is in it a kind of architectural nobleness: it stands like a great solid square-built edifice, finished:

Also, a high school student shows an evaluative response as an observer:

> *U.S. News and World Report* articles. I look down on the government rather than having respect I should have. Some of the persons are no good, use money for an office, etc.

THE PARTICIPATOR

The reader who reacts as a participator affiliates himself with a character or a group in the story. He is concerned with the feelings and internal reactions of characters. He may also become closely involved in the action. There appear to be two degrees of participation: partial and intense.

The Partial Participator

The partial participator is only tentatively involved in the action. It would appear that the editor, William Allen White, was at first tentatively involved in the Emerson philosophy: (15)

> In brief, so far as Emerson really got into me and became a part of my will and affected my conduct or anything like it, probably the Emerson philosophy was for ten years a growing infection before it broke out in my life. It seems to me that many ideas work within the spirit, whatever the coordinated functions of man's mind may be which we call his spirit, a slow-growing virus which appears in life long after the day of infection has passed. At least it has been so with me.

The partial participator may also be represented by the following comment of an adolescent:

> *National Geographic* article. This article changed my attitude by telling the facts about the people in Africa and therefore made me feel a little more sympathetic toward their actions.

The Intense Participator

The intense participator, identifying almost completely with characters or situations, is illustrated by this autobiographical fragment of Lincoln Steffens: (16)

> And my reading always gave me something to be. I liked to change the hero I was to the same thing on horseback, and once wholly in the part, I would remount my pony and be Napoleon, or Richard the Lion-hearted, or Byron, so completely that any actual happening would wake me up dazed as from a dreaming sleep.

Also, the response to literature as an intense participator is revealed by this high school student:

> *Catcher in the Rye*, J Salinger. Well, when I was reading this book I put myself as the boy in the book and tried to see how he felt. . . . I could see his problem and how he tried to solve it. I could see that no one understood him and why they didn't.

THE SYNTHESIZER

The response as synthesizer has two parts: self-image and construct. The reader may synthesize his impressions, ideas, feelings or emotions into a new construct or a new image of himself.

The Self-image Reaction

The *Bhagavad Gita* was a source of encouragement to Gandhi. In the August 6, 1925 issue of *Young India*, he wrote: (17)

> I turn to the *Bhagavad Gita*, and find a verse to comfort me; and I immediately begin to smile in the midst of over-whelming sorrow. My life has been full of external tragedies and if they have not left any visible or invisible effect on me, I owe it to the teaching of the *Bhagavad Gita*.

A student also reacted as a synthesizer of a self-image:

> *We the Living*, Ayn Rand. Before reading *We the Living* and subsequent other novels by Ayn Rand, I'd always had a sneaking suspicion that I was being crammed into a mold—her book confirmed this, and more or less inspired me to be my own person.

The Construct Reaction

A book by Morison gave Carl Rogers scientific constructs: (18)

> There was no one to tell me that Morison's *Feeds and Feeding* was not a book for a fourteen-year-old, so I ploughed through its hundreds of pages, learning how experiments were conducted —how control groups were matched with experimental groups, how conditions were held constant by randomizing procedures, so that the influence of a given food on meat production or milk production could be established. I learned how difficult it is to test an hypothesis. I acquired a knowledge of and a respect for the methods of science in a field of practical endeavor.

A poem in *Highway* magazine gave a high school student a new construct:

> *What Do You Do With Judas?* The poem made me start think-

ing that no one should ask or receive pardon without killing the Judas.

THE DECISION MAKER

The decision maker has formulated a decision regarding a course of action. His reading has influenced him to behave in a certain way or to decide upon future behavior.

While working on Baconian principles (collecting facts and observations wholesale), Darwin chanced upon a copy of Malthus' *Population* and wrote: (19)

> In October 1838, that is fifteen months after I had begun my systematic enquiry, I happened to read for amusement Malthus' *Population*, and being well prepared to appreciate the struggle for existence [a phrase used by Malthus] which everywhere goes on from long-continued observation of animals and plants, it at once struck me that under these circumstances favorable variations would tend to be preserved and unfavorable ones to be destroyed. The result of this would be a new species. Here then I had at last got hold of a theory by which to work.
> (Combination of Construct and Decision Maker Reaction)

A student also reported the influence of reading on his driving habits:

> *Hot Rod*, *Motor Trend*, and other magazines. I once thought that an automobile was as safe as a bike or skateboard. But after reading about how dangerous cars really are I changed my mind. After learning the facts about them it changed my driving habits. Before I drove without a thought of what I was doing. Now I am almost horrified by some of the things I see happening on the city streets. I plan to continue being a good driver because I want to live to be 150 years old.
> (Combination of Self-image, Intense Participator, and Decision Maker Reaction)

As is evidenced by the two foregoing reported reactions to reading, these self-involvement responses were frequently combined into related dimensions. An individual may reveal combined reactions of self-involvement from one book. Also, a reader may manifest intense participation in one book and partial participation in another. Squire's study of the responses of adolescents while reading four short stories showed that individuals react in different ways while reading the six sections of a story. (20) Because of the complexity and variety of the patterns, the best approach to the study of self-involvement appears to be the case study.

However, group studies as well as individual studies should be made of the dimensions of the interaction between a reader and his book. Reading does contribute ideas that help individuals clarify values and formulate decisions. Although the study of influence is complex in itself, more thought should be given to the subject of dimensions of reaction as this may throw light on the reading process itself as well as the effect of reading on the individual. Through an examination of the readers' introspective accounts, knowledge may be gained of the multiple patterns of reactions.

A multilateral approach to the teaching of reading appears desirable as each individual reacts to a book in his unique way. We want to know his reaction so we can help him grow and develop, using techniques and materials that others have reported introspectively helped them.

MAXIMAL INFLUENCE FROM READING

Case study research was conducted by the author of maximal influence from reading.(21) A quantitative and qualitative analysis of the reported influences of four hundred and twenty adolescents disclosed the following guidelines for the selection of readers of high influence:

1. Evidence of a combination of concept, attitude, and behavior influence.
2. Statements disclosing the development of:
   a. Self-understanding
   b. Understanding of self in relation to others
   c. Understanding and empathy for others
3. Statements revealing decisions formulated.
4. Statements revealing self-observed action taken by the reader regarding decisions formulated.

The following reaction of a high school senior to a magazine article (undesignated) appears to reflect high influence:

> . . . It was pretty sad and made me stop and think about all the wild things teenagers do when they want to get back at their parents. It made me stop and think before I act if my folks ever got mad at me and I wanted to get back at them. My Mom doesn't like me to just sit and read so was a little mad and of course did it. How wrong I would have been if I *did decide* to do crazy things, like smoke, drink, etc. I didn't do nothing to really be ashamed of. I stopped acting so sassy towards my folks. I found they really care, but they don't have to be so strict still.

> I don't whine til they finally let me go someplace. I just go to my room. . . . I found out that if it seems your parents are always getting after you, it may not turn out to be their fault after all. You have to look at yourself first and you'd probably get some surprising results.

The criteria for high influence from reading appeared to be satisfied in the student's quotation, which showed a combined concept, attitude, and behavior response. Self-understanding ("You have to look at yourself first and you'd probably get some surprising results.") ; understanding of self in relation to others ("It made me stop and think before I act if my folks ever got mad at me and I wanted to get back at them.") ; and understanding and empathy for others ("I found they really care,") are included in the student's report. Also decision making ("I found out that if it seems your parents are always getting after you, it may not turn out to be their fault after all.") and self-observed action taken by the student ("It made me stop and think . . ." "I stopped acting so sassy towards my folks." "I don't whine til they finally let me go someplace. I just go to my room.") show the influence of reading on cognitive and affective behavior.

Most of the influences reported by the students may be considered positive or beneficial influences from reading. However, one of the students of the case study, who had read selections written by naturalists (*McTeague* and *The Grapes of Wrath*) admitted that she "became mildly depressed" and "seemed to give up many things that were a challenge." When interviewed a year later, the student reported the same reactions of depression and helplessness that she had experienced the previous year from reading materials on naturalism. However, she declared that the reaction was not as pronounced this year. She believed that if she were to read these books again, they would not affect her as much. She mentioned that now she is reading more objectively and her "emotions are not tied up with the characters" so she doesn't understand what is going on. She believed that this change is due to the fact that she is reading more and different types of literature. Greater maturity is evidenced in this student's reaction a year later.

It appeared from the case study that the students of high influence, who were interviewed a year later, usually continued to be highly influenced—if not by the same materials —by other books, stories or articles they had read.

IMPLICATIONS

In order for reading to make a difference, the teacher needs to place more emphasis on value clarification through reading. Through the integration of narrative and expository content and values, decision making leading to the implementation of goals may be achieved. The teaching of facts, excluding end values, has encouraged the separation of ends and means. Dewey treated valuation as a process that relates means and ends.(22) Until about the sixteenth and seventeenth centuries, end values were incorporated in the natural sciences. The dichotomy between natural science and values is comparatively recent. This bifurcation has led to fragmentation, doubt, and uncertainty in values. According to Dewey, thought processes are continuous and connected:(23)

> . . . there is no competition between science and philosophy. They exist, so to speak, in distinct, although connected dimensions. As far as knowledge is concerned, the primacy and ultimacy of science is admitted. For what "science" means is simply the most authentic knowledge of nature, man and society that is possible at any given time by means of the methods and techniques then and there available. The work of philosophy as critical and constructive does not attempt to furnish additional knowledge beyond the reach of science. Its concern is rather with values and ends that known facts and principles should subserve.

According to this view, value is supreme over factual knowledge. However, because of the constantly changing content in the more exact realms of science, levels of generalizations are tentative, contributing to new formulations of end values. Content is changing at an accelerated rate with our perceptions of reality. Subject matter becomes obsolete almost as it is taught. The most permanent and useful tools are in the modes of inquiry and the processes of valuing or analyzing critically and creatively the issues and standards of our times. Therefore, the interweaving of content and the process of valuing can enhance sensitivity to psychic and social consequences of actions.

A few general principles underlie teaching for the integration of values and content:

1. The teacher attempts to ascertain the needs and concerns of the students.
2. A wide assortment of materials is made available, including reading materials that students and others reported had an

impact on their lives in changing their concepts, attitudes, or behavior.

3. Provision of opportunities for peer discussions of issues and problems presented in various kinds of literature. (Gorsuch reported studies in which open discussion of ethical issues by a peer group tended to "shift the less mature child towards the more mature one rather than *vice versa,* if the more mature position is spelled out.") (24)
    - a. In discussing the literature, the teacher, as guide and learner, avoids moralizing, preaching or indoctrination.
    - b. Open-ended questions that stimulate creative and critical thinking responses are encouraged.
    - c. Questions are posed that contribute to value-related behaviors:
        - 1.) Empathy: Identification with a character or a situation
        - 2.) Insight: Standing off and looking at ourselves from another's point of view
        - 3.) Critical thinking: Weighing the consequences of alternative courses of action; relying on reason, evidence, and judgment
        - 4.) Decision making: Formulating a decision after critical thinking; linking decision and action

Literature can be the basis for the release of altruistic energy. Through identification with characters and situations, students can achieve flexibility in taking different roles, developing insight into ways of understanding and helping others as well as themselves.

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Reflections on Adult Unlearning

Luanne P. King

> "If you have made a circle to go into,
> Go into it yourself and see how you would do."
> William Blake

It is time to reconsider the art of teaching and do away with some of the basic assumptions that underlie most teachers' work. In fact, it could be time to do away completely with teaching as a concept rather than to continue experimenting with new ways of teaching. We need entirely new educational environments for learning and new roles and relationships for the persons who inhabit them. Those roles and relationships are best defined by each person for himself. That's what happens covertly, anyway. Why not, then, bring it out into the open and sanction this process as natural and desirable instead of having the illusion we can create effectively a role for someone else? We need people who are willing to participate: teachers changed into *learners* who experiment, discover, test their discoveries, play, and enjoy being with other learners, whatever their ages, backgrounds, or self-defined roles.

What have we meant by teaching in the past? We have meant many things: expertise, authority, dispensation of knowledge ("telling it like it is") for the species' cultural transmittal functions. In the process of teaching, we have rewarded, rejected, praised, and criticized. Also, naively, we have viewed teaching as the preparation of good citizens (like ourselves) who will bring about a brilliant future for us all: a polished problem-free rear-view mirror of now. In all fairness, teaching has sometimes meant lasting friendship; someone to whom to write or with whom we can talk at a leisurely pace.

We human beings have many ways of deluding ourselves. Wittgenstein said, "The limits of my language are the limits of my world." In education, we have either taken this too seriously or not seriously enough. We try to say things that cannot be said and state objectives which cannot be attained. If we *do* know something, we feel we must do it and insist on others doing it, too. This is rather like the scientists who discovered how to make the atomic bomb. That knowledge was tempting. If we know how to do something, we usually do it, whether doing it is wise or not. We also "do" many things we *don't* know how to do just to be doing *something*. Very seldom are nature, social structures, or people left alone to evolve according to their own inherent rhythms, interests, and characteristics. We have to make things happen! Allowing, waiting, and accepting are almost non-existent processes as we contrive plans and programs in an endless stream of action.

Despite the good influence of humanistic psychologists, stoned thinkers (1) and enlightened gurus, we can still get lost in a screen of words. Too many of us predominantly rely on *telling* as contrasted with experiencing, meditation, exploring, and discovering. I ask those who interpret any emphasis on experiencing as anti-intellectualism to reconsider their notion that body and mind are separate. To go one step further, consider that individual mind/bodies could be part of a larger network of similar and dissimilar mind entities not immediately discernible to us in our present state of evolution. (2, 3)

It is particularly important to note that in education we have much cherishing. The contemporary English mathematician George Spencer Brown has pointed out how extensively and compulsively educators convey the idea that one should really be proud of what one knows and ashamed of one's ignorance. (4) Few human beings emerge from the educational processes so common today free from the attachments or aversions which are characteristic of people who "know." Specifically, Brown says,

> ". . . to teach pride in knowledge is to put up an effective barrier against any advance upon what is already known, since it makes one ashamed to look beyond the bonds imposed by one's ignorance. To any person prepared to enter with respect into the realm of his great and universal ignorance, the secrets of being will unfold, and they will do so in a measure according to his freedom from natural and indoctrinated shame. . . ."

You may be thinking by now that we can depend on the sizable number of students and educators who, in aversion, have dropped out of the public systems, that *they* will be able to work out viable alternatives. That could be overly optimistic. It can be argued that every aversion is also an attachment. You have not reached objectivity or, as some philosophers would say, "the point of open indifference" when you are putting thought and energy into an aversion. Most creative work and problem-solving break-throughs occur after a giving up, or a state of indifference has evolved so that allowing can occur. (5)

Then what are we going to do as educators? . . . How about nothing? I've already suggested that we wipe out teaching and become fellow participants and companion learners willing to share the making and constant reshaping of new environments; that we be willing to step *into* other people's circles and distinctions, to cross over into still other circles and back again; to experience, enjoy and simply take care of ourselves, rather than act so desperately *responsible* for other people's lives. This may seem a strange thought but responsibility breeds guilt. If you feel responsible for someone else's learning, you're bound to feel guilty at some level, because fundamentally no one can teach anyone anything unless he or she is ready to contact and absorb something new; usually a coincidence.

There's nothing like guilt to diminish fascination, enjoyment, and the necessary unlearning for self-actualization. The really important work for educators (or anyone else for that matter) is work on one's self, constantly bearing in mind the question, "What is it I really need to know through my own experience to get beyond my present limitations?" If you do this with others they might catch the excitement of your fascinations or they might not. There's a greater chance for the other learners' fascinations to occur with yours if you're really enjoying what you're doing. But whatever people get out of your learning and unlearning is basically what they want or need and would have gotten anyway if it was the right time in their personal development to be receptively in the environment you shared. That is to say, we overestimate our *presences*. But what a relief!! Not to teach, but to go on learning with associates. It takes courage to relinquish being so *important*, but in the long run you contact something far more lasting than an illusory feeling of self-importance. I'm reminded of an eastern mystic's saying, "In omniscience, there is no experimentation and no fun."

I had to write all this to decide what the purpose of this article really is. The title is going to be the last thing I write. Originally, I was going to write about a gestalt approach to learning, but in the meantime I've decided that *un*learning is more important. Unlearning involves getting in touch with and making explicit: fantasies, feelings, as well as codes and values which influence not only our perceptions, energy, communication, but our willingness to take risks. Without being able to take risks and abandon comfortable opinions, we find it extremely difficult to develop enough self-awareness for unlearning. "Seek not to find the truth; only cease to cherish opinions." This was the theme of a recent conference held by the Society of Comparative Philosophy for the purpose of having persons in different disciplines study George Spencer Brown's *Laws of Form.* It was one of the most important events of my life, for, among other things, I unlearned my fear of paradoxes and discovered their values and uses.

Unlearning is affected by and in turn affects our projective systems. To a large extent, we perceive what we are projecting from ourselves. There has been much scientific work done on this since the initial days of subjective idealism. All of us have our own paths, our own "trips." These trips are a combination of what we have learned through direct experience and all we've been expected to learn from our teachers, as they were called before we wiped them out. The wipeouts, sometimes joined by our parents, had the best of intentions, being very responsible, and generally thought it would be useful to instruct us on how to stay *safe* with our noses clean and our minds neatly organized. The only reason we put up with all these programs was that we were scared into thinking we might need them later, if not then. And after all, there were those *consequences* if you didn't shape up. It was too risky to suggest that no one has the right to ask someone else to do something he is not willing to do himself. Shutting up became a program. As Larry Rosinski, an engineering student recently wrote, (6)

> DEFINITION: "Playing the game" is performing an action or actions which are contrary to one's beliefs or opinions, but are fulfilled due to social, economic, or other pressures that are considered important. Depending on the circumstances, these actions can be minor or they can be critical in relation to the pressures involved. . . . For instance, how many times has a student disagreed with an instructor or felt that a part of his curriculum was a waste of time, but has kept still for fear he would receive a poor grade or not graduate at all if he tried to resist the established norms? Notice the word 'established.' From this we can infer the now popular connotation 'establishment,' and reduce our previous definition: "acting in accordance with the establishment."

Rosinski then goes on to discuss the pros and cons of resisting the establishment and brings up a wide range of alternatives. His essay is worth reading in its entirety.

John Lilly, M.D., has articulated, from his own experience as a scientific explorer in the empirical pragmatic style, how old programs in us are like tape loops playing and replaying in our nervous systems. (7, 8) These loops lead to repetitive and non-risk taking behavior. We play them—or rather they play *us*—again and again: the same sure phrases; the same guarded body movenments; the same games in relating to others again and again. We are not aware of many of these programs and how they keep us from meaningful exploration of our inner spaces, non-conventional experiences, fulfilling relations with others; or how sometimes they shut us down completely. Becoming more aware; deliberately testing the limits of these programs experientially and experimentally is a risk-taking and belief-changing process. The beautiful aspect is that it is also an energy releasing process. If we keep on testing and transcending the old programs, fresh energy is generated to change the tape loops from constricting circles into far-reaching eliptical contacts. That is what the big interest in special states of consciousness is all about. Just as children twirl to become dizzy, so do adults have an innate need to change their consciousness in order to transcend old programs, disorienting as the process initially may be.

Writing is communicating, and since every communication implies a two-way stream, the rest of this article needs you. Sticking to my theme, I prefer to stay away from any more telling or explaining. If you want a verbal massage experience, for example, my tying all that I've said thus far into a theory, think instead of eating a spare-rib, spending a couple of hours in an isolation tank, or taking a long walk. Better still, *do* these things rather than think them. Or if you must think, take your favorite opinion and turn it around 180 degrees and see how it feels. Live with it for a while.

As R. D. Laing commented in a recent interview when someone tried to sum up his work in three sentences. . . (9)

> ". . . if you read the ideas without the experience, you've got the shell without anything in it. You've got a menu without a meal."

This is another version of Korzybski's famous statement, "The map is not the territory." I could go into an even more primitive state: the cookbook ingredients; or into the territory, complete with mosquito bites, falling water, or maybe a dusty violet twilight in Ngorongoro Crater. But that would be teaching in which I don't believe anymore. The best cooks make up their own cookbooks and then keep throwing them away until they don't need a cookbook at all. There's no harm in borrowing someone else's cookbook to get started; but only you can choose the one you need.

I am finishing this paper after giving a workshop on using the arts as a way of getting in touch with some of the fantasies, feelings, and tapeloops referred to before. At the workshop there were warm, lively, responsive people. We shaped the environment as we went along. I feel a difference between the two experiences. In writing this paper, I have had to invent my associates; and I can't tell whether you have entered into my fascinations and distinctions at all. Have you stood outside my world the whole time or ventured in? And did I enter yours at all? In the workshop, we were all people reacting to each other's eyes, words, gestures, facial expressions, hidden and overt agendas, body movements, tones of voices, the rooms we were in, and the content of our experiments together. Then, there was no problem of eating the menu instead of the meal. We were there and we took some risks. It so happened that we changed each other. It was a happy coincidence.

Did you know you can control your coincidences? Decide what you want, and let all your associates who feel like listening know what you want and what your current fascinations are. After a while, you will observe coincidences happening as the circle widens to accommodate other people you've risked making privy to your needs. When the main thing you want to happen does happen; i.e., something you've been fascinated with actually falls into place for as long as you need it; people will inevitably say, "Oh, that's just a coincidence." At that point you can smile to yourself and say only to yourself, "That is the way I control my coincidences." Individuals' secret, light-handed control of their own coincidences is one of the few forms of control in education that makes sense. In coincidence control, you don't create oppressive expectations, nor depend on anyone in particular, or interfere with an associate's own purposes.

The ultimate goal of adult education is for individuals to feel free to create environments, equally shared, where persons can take full responsibility for their own learning, unlearning, and behavior. Let's allow that to happen.

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The Anguish and the Joy of Creating Educational Alternatives

Mary Giorgi

It is a pleasure to share with you my enthusiasm for a school with three schools within it. Invariably when I am asked to give a presentation, someone asks where the other two principals are. I am that three-headed principal and therein lies some of the difficulty!

First, I'd like to share a little of the history of Jefferson School in Berkeley, California. Oddly enough, it was my total frustration which helped to make it happen. I have been very frustrated as a parent through the years. I am a mother of five children ranging in ages from 8 to 25, and it has been my dismay over the years that I have had to simply "watch" their education *happen,* never being really able to provide some of the vital information to teachers that could make a qualitative difference in the experiences which they uniquely have needed from time to time. Over the years I have experienced a growing frustration as an administrator where parents were asking for one thing and schools were providing for another. As a school psychologist I have also experienced a frustration where I have watched children gradually (sometimes abruptly) losing that beautiful sense of wonder which young children typically have, feeling that the school experience is hastening to dampen the spirit of children. What I am saying in a rather lengthy way is that several factors combined so that I personally reached an "all-time high" of personal and professional frustration which in turn created a readiness on my part to dream of a school of alternatives where parents would be able to have an important say in the educational life of their children.

Prior to coming to Jefferson School, I was principal of Baldwin School, the first Open School without Walls in San Ramon District also in Northern California. It was truly an exciting place for learning. We not only had a building without walls but were working hard to "break down" the walls in people's minds which separate and close off healthy sharing and communication. In this school we had an almost totally individualized school with many multigraded classrooms, the educational "hub" being the media center which was visible and open to all classrooms. The potential for learning here was exciting, challenging and almost limitless. The ultimate goal was an individual contractual agreement for each child and of course, there were many different stages of readiness for this approach. It worked with a staff who had chosen to come together for this program to be with my leadership so I had the real "joy" of a "together, committed staff." Unfortunately, we were in the midst of a community where a significant number of parents wanted *traditional* education. With my work with parents—parent tours, forums, classroom meetings, etc.—we were able to help a great number of people understand and support what we were doing. During that year between 3,000 and 4,000 visitors from all over the country came, some of whom ironically enough were Jefferson parents who had no idea that I would one day be in Berkeley. None of the Jefferson teachers came. However, many teachers from Berkeley did visit and later applied for any openings which they hoped might occur at Jefferson. Unfortunately, as a consequence of my moving there, in our first year of implementation of the model school program at Jefferson School there was no opportunity to bring new people in who had a really strong feeling for what the change could be. Here is part of the problem. You can have a good idea, but you need *people* to implement it.

I have told you about Baldwin School since, because of my experiences there it was both my excitement and my frustration that helped "push" me to the firm conviction that we must have schools with alternatives if we are to survive in the public school setting and if children are to be helped to grow and be nurtured in the public school environment.

The Jefferson School Three-Part Model which has since developed is an all encompassing one. It provides in-depth inservice for the total staff. The real thrust is here in the possibility and the potential for growth on the part of staff. Our program provides three options for education: a Modern Traditional School, an Individualized-Personalized School, and a Multi-Cultural Bilingual School. Each staff member has chosen the model in which he or she is participating. Parents have chosen the model which they believe most meets the needs of their own children.

The *Multi-cultural Bilingual Model* (10 classrooms) seeks to develop a curriculum which reflects the Third World cultures which many children bring with them to the classroom. The program is bolstered by Chinese and Spanish K-3 bilingual classes, and also monolingual classes K-3, which are designed not simply to teach a second language but also to provide students with understanding of other peoples. Instructional activities help students to develop not only academic skills but also the social skills necessary for survival in a pluralistic society. Parents and community people have supplemented the regular teaching staff in the classroom.

The *Individualized-Personalized Model* (8 classrooms) is designed to make available to students different types of learning materials that correspond to their varied learning styles. Different learning centers within the classrooms are set up to accommodate students' abilities, interests and needs. Teachers encourage students to set their own pace and styles to become more self-directive.

The *Modern Traditional Model* (5 classrooms) retains traditional instruction that many parents want for their children. This is a teacher-directed program which emphasizes the acquisition of skills and subject matter. Instruction in this model relies primarily on the teacher's knowledge of subjects and his or her ability to present it to children in creative and challenging ways.

For each model the school has contracted with a consultant to provide teachers in-service training and supportive classroom help.

Parent involvement in the school is essential. Parents choose the alternative in which their child participates. Each class is balanced ethnically to approximate the ethnic composition of the district. Parents influence program and budget allocations through the Parent Advisory group and classroom parent meetings.

During the present school year, Jefferson has developed four specialized centers to serve all three models. Their purpose is to give particular attention to delivery of basic skills to Third World students and to achieving cultural pluralism as follows:

The *Math Lab* provides an active approach for learning mathematics. The four areas of emphasis for the year have been number, computation, geometry and measurement. Exploration of real-world problems, learning centers and math games have been the strategies employed. The laboratory approach has strengthened student ability to exercise freedom and responsibility to attack and solve problems and to work cooperatively. The philosophy communicated by the math lab is that math is exciting, that every child can succeed in math, and that math is useful in the real world.

The *High Intensity Learning Lab* for reading instruction is used primarily by second and third grade children. Some high achievers in first grade also work in this lab. A major goal is development of self-reliance and love of reading. Each pupil is programmed to follow written prescriptions that teach to his identified needs. Check-in and check-out diagnostic tests determine which instructional objectives are to be written into prescriptions. A wealth of reading materials is available at the lab.

Heritage House is a multicultural, multimedia center which provides cross-cultural studies emphasizing minority cultures that have been most neglected in the school curriculum. The study of American Indian, Chicano, Black, Asian and European cultures becomes an integral part of the course through a humanities program utilizing dramatics, arts, crafts, music, map work, modes of living, resource people, video materials and the creation of environments. The child learns history through the perspective of his own heritage. Through this personalized approach the child is helped to develop a positive self-concept, an appreciation of a pluralistic community, and the ability to get along with others.

The *Afro-American Studies Center* creates a Black environment that stimulates children to appreciate and understand the experiences of Black people in America. Projects will be designed to graphically illustrate major aspects of the Black experience.

The year prior to my coming to Jefferson many parents had gone to our Superintendent, Dick Foster, complaining about the lack of an exciting educational environment at Jefferson and asking for some kind of change. During my first year (1969-1970) at Jefferson more than 100 parents came to see me, most of whom had the same concern—their five and six-year-olds were beginning to "turn off"—they were losing that wonderful sense of wonder, excitement and spontaneity which we hope all children can bring with them to school, and the school experience can somehow keep alive and build upon. During that first year I arranged for consultants to come to Jefferson for meetings with the total staff, exploring different ways of approaching the teaching-learning process. We also began two collaborative problem-solving groups which began to encourage an honest kind of communication which had been totally lacking in the past. In the beginning there was a total lack of motivation on the part of the staff to make any kind of change. One day, however, one more parent came to see me again, asking why there could not be more diversity of educational approaches at Jefferson. (I guess this was the "straw that broke the camel's back!") In utter frustration (having used consultants as catalysts for change and seeing very little) I called the Superintendent's office and asked if I could wait in between appointments for a brief chat. I was fortunate in being able to talk to Dick Foster for a few minutes at which time I said very simply, "I finally know what kind of a school I want. I want a school where parents can choose the kind of education they want for their child and where we can have several forms of education taking place under the umbrella of one school." Dick smiled and said, "Is that all you want?" I replied, "Yes," thanked him for listening, and returned to Jefferson, feeling better having expressed my desire, but not knowing how it could all become a reality. About ten days later Dick Foster called me into his office, saying that there was an opportunity to write a grant for Ford Foundation funding for a three-part model school (a traditional school, an individualized-personalized school, and a bilingual school). Needless to say, I was delighted. We had about one week and a half to write the proposal, and I worked with two other consultants. We started with the format given us—namely, the traditional and the IPL models, and decided to expand the concept of a bilingual model, encompassing a broader concept—a multicultural education—and call that model *Multicultural/Bilingual.*

With ten days to write the proposal for a staff that was very resistive to change, it was impossible to get constructive input from staff, so we "went it alone." That was mistake number one and I have continued to "pay" for it. As soon as the proposal was written we had in-depth brain-storming meetings with all of the staff meeting in small groups in order to explore what the three-part model concept would mean for staff. Jefferson staff members were given released time away from school to consider the proposal. They were given the first opportunity to become a part of the Jefferson Three-Part Model which required a definite commitment on their part. Everyone chose to remain. As you can well understand, there were different motivations for staying. Some stayed because the idea was a challenging one! Others stayed for the usual reasons that people are reluctant to make transfers and one or two, in particular, it seemed, stayed to fight the idea. The next step was to inform parents and, of course, many were very excited with the opportunity to select the model of their choice. We had four parent meetings with very large attendance, ranging from 450 at one meeting to 175 at the smallest meeting. This took place in May and June. Surprisingly enough, there were a few parents who felt I was neglecting my responsibility as an administrator by placing the choice in their hands. Staff began intensive workshop training in August, prior to the opening of school. There was much excitement on the part of teachers as they had chosen the model in which they most wanted to teach.

On October 7 we had a total staff presentation for parents, giving clearer, more concise descriptions of the three models and what their expectations as parents might be if they chose a particular model. We also offered to counsel with parents who were having difficulty making a choice or needing more understanding of what that choice meant for them and for their child. For many people it was a very personal kind of decision that required much thought, counseling from my office, and in some cases, last year's teachers and the school psychologist. In one case a second grade child came to me saying that she needed help from me in understanding the models so she could help her mother make a choice! After the October 7 staff presentation, questionnaires went out for parents to indicate the models of their choice. It was a tremendous task to set up classes ethnically balanced, and with each class having a wide range of levels, social-emotional maturity and academic ability. In November, kindergarten and first grade children were placed in the model school program. In December, second and third grade children were placed in their model school classes. After the model school placement, only six parents came to me requesting a different placement. This was quite a contrast from the year before when over 100 parents came in, requesting a transfer or a change for their child. Incidentally, only one of those six parents remained dissatisfied as she really wanted a "free school environment," and we were not really ready for this.

During our second year and third year we are continuing in the three-part model program under U.S. Office Experimental School funding and are excited about the progress we feel is being made. Teachers are working long and hard. I am seeing a qualitative difference in the way teachers respond to other staff members, and I am observing an increased warmth toward children in the classroom. It feels like we are on the "right track" with much yet to learn. We originally formed Site Advisory Committees for each one of the models in a sincere effort to involve parents in the real life of Jefferson School and on a decision-making level. This year we have one Site Advisory Committee which serves the total school and helps to break down some of the polarization that was beginning to develop. We also have a Site Advisory Evaluation Committee composed of staff members and parents.

We believe it is important to use every skill and talent within our reach to enhance, support and reaffirm the child's learning experience. Further, we believe it is our collective responsibility to honor, celebrate and validate the kinds of life styles, heritages, skills, and talents that are such an important part of each child's experiences at home and to share this with others. We always depend on the support and the cooperation of the parents of Jefferson School.

To me it would appear that the most important thing we are doing for children is to take them out of the area of conflict in which they have been placed so long, where parents are saying one thing about the educational process and teachers many times saying another—with children finding themselves in the middle, very often wondering who is right and why there is the discrepancy of message coming from two such vital people in their lives. With teachers and parents and children having chosen the educational models of their choice there is certainly more possibility that the message will be a convergent one.

For those of you who may be joining alternatives in the future, I'd like to end with a word from one "who has been there." It takes a great deal of personal conviction and a tremendous amount of energy and perseverance. It's a strange combination of joy and anguish. But we are in education for one reason alone, and that is to provide the best possible educational experience to all of our children. I personally think it's worth the struggles.

I'd like to close with a quote received in 1971 in a letter to me from Mario Fantini, Dean of the Faculty of Education at State University, New York, and Consultant to the Ford Foundation, who has traveled all over the country looking at alternatives: "What you are beginning at Jefferson will probably have more impact on American Education than any other reform that I know of at this time."

The Burgeoning Field of Administration: Community Cultural Centers

Brad L. Fry

A recent survey indicated attendance at arts activities (theater, dance, symphonies, museums, galleries, etc.) has surpassed attendance at sports activities for the first time in the history of our nation.

The Federal government appropriated 29.7 million dollars for the National Endowment for the Arts in 1972. This was nearly double the allocation for 1971. The prognosis for the 1973 budget is positive and indicates that 38.2 million dollars will be forthcoming. These Federal monies are still meager as compared to nations such as Austria, Canada, West Germany, Sweden, Israel and Britain; however, they do indicate recognition by our country's leaders that there is a renaissance of interest in the arts.

More and more, state, county and municipal governments and corporate leaders are joining hands to provide funds for the arts. They are at last recognizing that the arts must not remain elitist but are a necessary part of the social, spiritual and environmental growth of all the people. Organizations such as the American Association of Museums, the Western Association of Art Museums, the American Theater Association, American Symphony Orchestras Association and the Associated Council on the Arts are meeting, discussing, formulating and inaugurating programs to uplift the human spirit through the arts. A major emphasis is being placed on the need to initiate programs at the elementary school level and to build the participatory audiences of the future.

John Hightower, president of the ACA, at a recent conference in Los Angeles of the American Council for the Arts in Education, stated, "We know in our bones the value the arts can bring to education, to learning about ourselves, not by learning to distinguish between what is allegedly good or bad in the detached manner of a connoisseur, but to learn to hear, to see, to move, to feel, to touch—to develop a literacy and articulation of the senses as well as of the intellect."

We in the arts are beginning the strong collaborative efforts necessary to break down the elitism that has so hampered the healthy development of the arts in this country. Arts councils and arts commissions are casting aside their petty competitive politics and are making collaborative efforts. More museums are collaborating on exhibitions and educational programs to provide the broadest possible exposure to the people. Symphonies, ballet companies and opera companies are working jointly to produce arts experiences for the broad populace.

Throughout the United States, community arts centers are bringing a mixed-media bag of arts to their communities. They offer everything from sophisticated gallery programs, to ethnic theater in the streets. In California alone, there is the Richmond Art Center, the Concord Art Center, the Riverside Art Center and the Muckenthaler Cultural Center, to name just a few. Each attempts to enrich the lives of their citizenry by offering educational opportunities that could not otherwise be found except in major cities.

At the Muckenthaler Cultural Center in Fullerton, California, where I am the Director, we offer annually 10 gallery exhibitions, 4 community theater productions, two children's theater productions, a lecture and concert series, an art rental gallery, a film series, and a Children's School of the Arts, featuring almost tutorial instruction by professional artist-teachers, plus 34 adult education arts workshops; a free two day Festival of the Arts which presents drama, contemporary dance, rock, symphony music, arts and crafts, mime troupes, ballet and opera. We are currently finalizing plans for a collaborative effort with the Fullerton elementary schools to place our professional instructors on their campuses for an innovative summer school arts program to introduce every child to the various art disciplines.

Ladies and gentlemen, all of this brings me to this point —as contemporary man's workaday life has become more routinized, and his leisure hours have grown, he has felt and expressed, an ever greater need for the enrichment of aesthetic experiences. The psychology of the "show must go on" is more urgent today than it has ever been before.

Whether or not any particular "show" will, in fact, survive continues to be assessed chiefly in terms of aesthetic quality and audience response. While these components must remain absolutely essential, there is an equally important, if less obvious, further condition for successful artistic activities: the efficient management of the artistic organization itself—from its accounting procedures and personnel policies to the special problems of its financing, production planning and public relations. This administrative component of viable artistic productions is today even more critical than in times past. For as the public's expectations of arts continually rise, so do their costs and so does the stake in high quality arts administration on the part of the private and corporate patrons, foundations and government agencies who are helping to foot the bill.

Despite its growing importance, arts administration continues all too often to be handled on an amateur basis. Its professionalization is still in its infancy and only a handful of colleges and universities have even begun to address themselves to the special requirements of the arts administrator. The arts administrator is a new kind of specialist. He or she must at once be a creative producer, director, writer, curator, public relations person, fund raiser, accountant and businessman. Above all, this specialist must have the ability to coax, cajole, stimulate and pacify the patron and public; yet, he must still find time to hold the proverbial hands of the ever present women's auxiliary, which generally constitutes the backbone of free labor, without which the arts could not survive.

In the past few years, I have attended many conferences involving the various arts disciplines and have heard one or more speakers describe their desperate need for this renaissance man or woman to direct the activities of their organization. Currently it is a seller's market for the experienced professional arts administrator. There are generally 15 to 25 good paying positions advertised each month in the American Museum Association placement bulletin, not to mention the positions advertised through the ACA, American Concert Managers and American Theater Association bulletins. A recent survey indicated the salary range for an arts administrator ran from $12,000 to $50,000 per year depending on size and scope of the arts activity, the average salary being about $15,000 annually.

An undergraduate student to prepare for a position in the arts administration field should immerse himself deeply in the Humanities. He should take courses in art history and studio art; theater history, acting and directing; music appreciation, communications, advertising and public relations, and courses in public administration and business administration. He must be gregarious, articulate and, above all, have the personality to cope with the tedious and exciting at once.

The role of the professional arts administrator is vitally important to the healthy future of the arts in our country. If the arts are to continue to survive and fulfill the needs of ALL of our people, a conscientious effort by educators, such as yourself, must be made to "turn-on" students to this provocative and rewarding career opportunity.

Critical Reading Instruction: Responsibility, Challenge, Privilege

George B. Schick

Before undertaking the task of developing critical reading habits, the reading instructor must give preliminary consideration to the reader's readiness for this training and to the general deterrents to the growth of critical powers.

Stated very simply, the reader must be capable of reading and understanding what he reads. He must recognize word-meanings readily and select an appropriate meaning for words that may have several meanings. He must understand whatever figurative language any author may employ. He must be able to state in his own words what the writer has said and to identify an author's major ideas. He must recognize and adapt to the pattern of thinking which the writer adopts. He needs to be able to see the relationship of major ideas to the whole concept which the writer constructs. Also a good reader recognizes an author's purpose, point of view, and his biased, factual, or limited attitudes toward the subject matter. Drawing inferences from what an author states is another essential quality for the reader, as well as the ability to take into account devices like satire, humor, irony and to become aware of the mood or tone of the writer.

All these insights and qualities the reader must have to a greater or lesser degree, if the reading teaching is to build critical skills effectively.

To be recognized and overcome are certain predilections or habits of mind of the untrained reader in order to improve his critical skill. To begin with, a reader has to be convinced of the validity of critical reading, its value to him; to be skeptical of authority of any kind; to be receptive to more than one point of view; to be aware that he brings previous knowledge to the printed page; and to realize that controversial subjects are not to be shunned.

TEACHING CRITICAL READING SKILLS

What are the best means to develop discriminatory powers? The crux of the matter is the questions asked; they are the strongest and most effective instrument of the craft and art of teaching. They must range from simple to the utmost in complexity. They may be long or short; they need not be brilliant or original. But they must be probing, searching, constantly challenging. Following are some examples:

1 Is the action in this story believable (getting at plausibility)?
2 Does the author know what he is writing about?
3 Would these characters really act, speak, do what they are made to in this story?
4 Is this propaganda or a true interpretation?
5 Does the writer omit, reduce in importance matters that are relevant?
6 What similarities do you find in this writing to other pieces you have read? Are the differences more significant than the similarities?
7 What words are used merely to stir up feelings?
8 Would readers in Europe, Asia, Africa like the story, or is it purely North American (getting at universality of appeal)?
9 What do you think of the title of this account? Write one of your own that appeals more strongly to you.
10 Is this written to give a true picture, or just a "good story?"
11 Must all pleasurable stories be "true to life?"
12 Why do most American readers seem to like pioneer stories? Do you? Why?
13 Should readers always stick to their favorite kinds of reading?
14 If you made a list of your favorite things to read, would your preferences always be the same as those of someone older, younger than you?
15 Would you rather read a fictional account of A. Lincoln's life than a biography?
16 Suggest a different ending to this story. Would it require changes in plot, characters, action?
17 Compare two different newspaper accounts of the same event. Should they be identical?
18 Make a list of topics you would like to know more about, from kite-making to exploring the moon.
19 How do you think this story came to be written? What did the author mean in his account?
20 Are differing reports of a major event necessarily wrong or dangerous?
21 Is it wrong to admit that people are sometimes violent, cruel, and hateful and also wrong to read stories of violence?
22 Is it harmful to read stories simply for pleasure and enjoyment?

23 Should some books be banned and removed from school, college, and public libraries?
24 What is censorship?
25 Is all propaganda necessarily bad and to be avoided?

These are but a few examples of the kinds of probing which critical reading entails. They depend largely upon comparison and contrast, analytical thinking, making judgments, and discriminations. At best they should lead readers to seek out clues, to develop powers of predicting and of anticipation, to form hypotheses.

Three provisoes demand mention: No critical reading instructor may initiate any activities that deny or invalidate any of the principles of teaching reading itself. It is possible to overdo the skeptical outlook, but critical reading should always enhance enjoyment, appreciation, sincere evaluation. Finally, critical reading instruction must take into account fully the fact of individual differences; hence the teaching must be adapted to every reader's needs, his own degree of relative maturity of skills and of understanding.

In short, critical readers shall come to read with full alertness of mind.

National Assessment and Reading Between and Beyond the Lines

M. D. Glock

National Assessment of Educational Programs (NAEP) is an annual, national survey of the knowledge, skills, understandings and attitudes of certain groups of young Americans. National Assessment has two major goals. The first is to make available comprehensive achievement data. The second is to measure the growth or decline of these achievements over the years. It is surprising that despite the billions of dollars spent on education we have not had an academic census of what our young people know or can do. Information about our citizenry is readily available in the fields of health and finance, for example. We know the incidence of heart disease and mental illness. We have data on the prevalence of cancer—yes, even of that caused by the use of tobacco. We have tabulated income of the average American and how much he spends for food, clothing, and taxes. However, we did not know until National Assessment what scientific facts a nine year old knew. We had no information about the attitudes of 17 year olds toward presenting various political ideologies to the American people via the mass media. We did not know whether the average thirteen year old could read and follow instructions demanded in everyday living. We had no substantive data describing the attitudes of young people toward reading. And we knew little about the ability of our pupils to read critically, nor did we have a comparison of their skill in making inferences with that of obtaining significant facts.

Data Variables

Ten subject areas have been chosen for this educational census—mathematics, citizenship, science, art, writing, career and occupational development, music, literature, social studies, and reading. The exercises in these subject areas are to be administered to four age groups—nine, thirteen, seventeen, and young adults—twenty-five to thirty-six, in repeated assessments of approximately five year cycles. About 50% of the exercises in each cycle will be released with data indicating percentage of success of these age groups. Further groupings provide additional information.

The country was divided into four sections—Northeast, Southeast, Central, and West. Specific data on reading performance is available for each of these regions. Performance in seven sizes and types of communities is reported—extreme rural, extreme inner city, extreme affluent suburb or inner city fringe, suburban fringe, medium city and small city. There are data for whites and blacks as well as males and females. The effect of parental education is also reported. Data are available showing the differential performance of individuals whose parents' education ranged from no high school to post high school.

Assessment Procedures

Before assessment in any subject area is begun, an analysis of what the educational system is trying to achieve must be made. This is determined through a consensus of representatives of teachers, scholars, and thoughtful, interested lay citizens. There is great care in the selection of the panel to review educational objectives. Representation from various regions of the country, from public, private and parochial schools, from those knowledgeable about minority groups, and low socio-economic problems, from students, from different national organizations and varied occupations, and from both sexes is secured. Once the objectives have been established, exercises are developed to measure them. These, of course, must be improved and edited by field testing. Any items deemed objectionable in terms of tone or content are also eliminated. Only then is the final group of exercises ready for administration.

Through the use of statistical techniques, no pupil is required to complete every exercise in a subject area. In fact, his testing time is no more than 60 minutes. During that period he will answer items from two or more subject areas. It is through this procedure that NAEP can administer exercises that would require up to five hours of testing time, providing for a very thorough sampling of a subject area.

National Assessment does not assign causes for the data. It only reports what exists. For example, the southwestern region of the country produces typically lower scores in all subject areas. One must not draw hasty conclusions that schools are inferior in this section of the country, however. There are other variables that may account for low achievement. To mention one—that so many people live in rural areas in these states. We have evidence that life in these sections does not provide the educational advantages for high-academic performance found in the suburbs. Likewise, performance of blacks is typically lower than whites. As it is, a larger percent of blacks than whites live in unfavorable sections of the country. This hidden variable undoubtedly is an important factor affecting achievement. In other words, we cannot conclude that race is the cause of the differential performance between blacks and whites.

Objectives and Themes in Reading Assessment

There are five objectives: (1) To comprehend what is read, (2) to analyze what is read, (3) to use what is read, (4) to reason logically from what is read, and (5) to make judgments about what is read. Only after exercises were constructed to measure the objectives and administered to the various groups of young people were the themes developed for reporting purposes. The themes are meaningful categories where the exercises are clustered in terms of the skills important in reading.

There are eight themes reported plus rate making nine categories in all. Theme one, *Word Meanings,* includes the understanding of words in isolation as well as in context. Theme two, *Visual Aids,* contains tasks requiring the interpretation of drawings and pictures, the reading of signs, labels, charts, maps, graphs, and forms. Exercises demanding *the understanding of written directions and the carrying out of written directions* comprise Theme three. Two aspects of reference materials were stressed in Theme four—knowing the appropriate reference sources and using the materials correctly. Theme five emphasizes *reading significant facts in a passage*—whether the reader could recognize factual information, remember it when the passage was no longer available, and understand the relationships among facts. And now we come to those themes related to the topic of this conference, "Reading Between and Beyond the Lines." To *Main Ideas,* Theme six, you will want to add *Understanding Organization of Passages.* An exercise in reading to determine organization might require the pupil to identify the author's mode of organizing facts such as chronological sequence or logical order. One exercise has two stories. The second is incomplete. The respondent is asked what would come next in story two if it ended like story one.

In *Drawing Inferences from Passages,* Theme seven, some tasks demand only information given in the passage for a proper completion. But others require that the reader apply information from his previous background of experience. Theme eight, *Critical Reading*, provides for the application of various knowledges and skills, such as understanding literary devices, recognizing mood and tone, discriminating fact from opinion, recognizing the author's purpose and recognizing and evaluating sources.

Rate of Reading

In this day of super speed reading institutes, it is interesting to note that most Americans read from 100 to 299 words per minutes. At those rates they are able to answer four or five factual questions about what they have read. There were no readers with consistently good comprehension, reading above 750 words per minute. However, slow readers with fewer than 50 words per minute and demonstrated poor comprehension were frequent. It would appear that reading too fast isn't a factor precluding competence in reading between and beyond the lines.

Patterns of Performance

National Assessment performance is reported in terms of the success percentage of the total national group and the various other groups for each exercise that is released. This method of reporting differs from that of the typical standardized test which is norm-referenced. Norm referenced tests rank individuals. Scores are in terms of percentiles, grade levels, or other derived scores. These tests are not constructed to give information about what pupils know or can do. NAEP employs criterion-referenced measurement. With this procedure you have information about whether or not a pupil can do a particular task, the criterion. Since approximately 50% of the exercises are released for each assessment, we can examine a task and note what percentage of respondents completed it correctly.

From these data we learn that no matter what group is considered, themes requiring the determination of ideas, drawing inferences, and critical reading, those demanding more abstract thought, tended to show the poorest performance. High performance tended to be on themes one, two, three, and four — word meanings, visual aids, written directions and reference materials. These themes require only the extraction of factual information. There was one exception, in age nine, where drawing inferences tended to be in the high cluster.

Unfortunately the meaning of this cleavage between the high and low theme performance, is not clear. We cannot conclude that individuals do this kind of reading with less skill. Since there was no systematic approach to control the difficulty of the items, these exercises may have been inherently more difficult.

Implications of National Assessment for Reading Instruction

Of what value is NAEP data for the improvement of reading instruction? In the final analysis this is our interest.

First, NAEP has provided us with very detailed objectives agreed upon by a wide cross-section of people interested in education. They represent the best thinking of scholars, teachers, and laymen about what should be taught. Certainly we shall want to study these very carefully and compare our own objectives with them.

Second, in studying the released exercises we note that they are very practically oriented tasks. More than one skill is generally required to complete each exercise successfully. This approach might help teachers focus, not only on skills per se, but on their interrelationship for reading success in everyday living.

Third, in this regard, teachers will be disappointed in finding no indication of a clearly defined criterion level. That is, there is no suggestion as to how successful respondents should be in completing an exercise. Should we be satisfied when only 90% of a population of nine years old can read simple directions? This is a problem we have never resolved with any kind of assessment.

Fourth, the released exercises can be administered to a class and judgments can be made on a comparative basis. Of course, care should be exercised in making judgments about individual pupils on the basis of too few released exercises. It is possible, however, to determine strengths and weaknesses in skill achievement for groups of pupils.

Fifth, the released exercises with the addition of similarly constructed items can be used as an immediate source for evaluating pupil progress. If a master list of objectives is maintained for each pupil and notations are kept when each is successfully completed, feedback on the learning of specific tasks is readily available. Obviously this method of accounting focuses our attention on pupil learning where it belongs.

Promoting Motivation through Inter-related Cognitive & Affective Factors

Stanley Coopersmith and Ronald Feldman

The terms "cognitive" and "affective" have a familiar yet uncertain ring to persons concerned with current developments in educational theory and practice. As most of us know, for many years "cognitive" aspects of education have been emphasized, with the goal of education being to inculcate cognitive skills such as the abilities to memorize and to reason. Feelings and emotions were often viewed as peripheral to learning and possibly destructive to the learning process. More recently, many educators have recognized that feelings and emotions are quite relevant to the child's motivation in the classroom and that failure to attend to these "affective" factors may detract from the student's general interest and involvement in academic pursuits. Despite this recognition there is considerable uncertainty and disagreement as to the proper and appropriate role of affect in the educational process. Some educators have argued that the expression of affect in the classroom is a valuable and legitimate goal in and of itself (Brown, G.; Laderman, J.). Others maintain that affect is most appropriately used in the classroom as a means for gaining interest and to aid in the acquisition of cognitive skills (Glasser, W.). While we subscribe to this latter view, we believe that the view of affect as a means to effect achievement rather than as a goal of education is open to various interpretations and is not as simple as it seems. In this paper we shall examine how one particular cognitive factor—self-concept of personal effectiveness—interacts with affect and how that interaction promotes learning in the classroom. This inter-relation of cognition and affect will be examined first at the level of theory and then in the context of learning-teaching practices that facilitate the development of the self-concept of personal effectiveness.

Our theoretical examination requires first an understanding on a general level of the role of cognitive factors in determining affective states. Several recent research studies (e.g., Schachter and Singer, 1962) indicate that beliefs and expectations play a significant role in determining which emotional state is experienced. This means that people do not necessarily "know" emotions as purely physiological experiences but rather employ the context in which the feelings occur to decide which emotions are appropriate. If a child has certain feelings and a test is being given, he is likely to relate those feelings to the test and interpret his feelings as "fear" whereas similar feelings in a playground game might be described as "excited." Inasmuch as interpretation of the feelings appears to be part of the process by which emotions are given meaning, cognition as well as affect is clearly involved. Another line of investigation pointing to the interaction of cognition and affect are studies indicating that people are motivated to exert effort in order to gain an understanding of their environment (Berlyne, D.). These studies suggest that there may be an inherent need to seek information when the person is concerned and involved in his environment. From an evolutionary perspective such information-seeking would have the benefits of determining potential dangers as well as coping with problems. Along this same line are the studies indicating that visual and manual exploration of the environment is a powerful and inherently satisfying activity (Butler, R. A.). Given choices of rewards, higher primates generally prefer satisfying their curiosity to rewards granting food, water or rest. Further evidence interrelating affect and cognition are the Russian studies which reveal that when the autonomic nervous system is highly stimulated the organism becomes very attentive and vigilant to his surroundings, (Krech, D and Crutchfield, R.). Since the autonomic nervous system is intimately involved with experiences of emotion, these studies indicate that attention and vigilance, which are largely cognitive functions, are related to emotional experiences.

At this point let us turn to three examples of specific cognitive factors that exert influence on a person's effective experience and behavior. The three we shall consider are cognitive dissonance, attribution theory and self-concept. First are the extended series of studies in cognitive dissonance which indicate that when a person's cognitive world has contradictory information about himself, the person feels uncomfortable and strives to reduce the contradiction in some way (Festinger, L.). In attempting to resolve dissonance, persons engage in psychological manipulations as well as exerting physical effort. Thus attempts to achieve a balanced and psychologically coherent view of oneself and external issues can have marked motivational consequences. Attribution theory maintains that ordinary people, like scientists, construct and test hypotheses in order to arrive at some understanding of human events. In terms of the school situation, the child wishes to attribute his success and failure experiences to explicit causes. To arrive at an understanding of such causes, the child looks at the evidence, both current and historical, and arrives at an explanation of the causes of his success or failure. The nature of the given explanation—a cognitive factor—profoundly influences an affective factor—the child's motivation to achieve. Heckhausen and Weiner (1972) have labeled and studied four possible causes to which individuals generally attribute success and failure experiences. Two of these factors—luck and the ease or difficulty of the task—lie within the environment. The other two causes—ability and effort—reside within the individual. These studies by Weiner and related studies on perceptions of self as the locus and origin of action (Rotter, J. B.; DeCharms, R.) indicate that the child's motivation increases when he attributes success and improved performance to his inner resources. Under circumstances where the child cannot attribute success to his own ability and effort, his efforts are reduced and his involvement declines. In addition, where the child does not perceive that he has or can gain increasing power to deal with the world by virtue of what he is learning in the classroom, he apparently disengages from the learning process (Coleman, 1955).

The child's self-concept as an effective learner is another cognition with significant affective consequences. That the self-concept is cognitive in nature is often unappreciated largely because self-concept research has often focused on the affective consequences of one's picture and evaluation of oneself. The child's self-concept as an effective learner provides him with a belief that he can benefit from and utilize the experiences of his life, that he has valuable strengths and abilities, and that he is capable of attaining success. The self-concept as an effective learner influences motivation through two major mechanisms. First, by increasing expectations of success on a given task, such a self-concept increases the likelihood that a child will make greater efforts to succeed. Generally speaking, people are not highly motivated to attempt tasks on which in advance they expect to fail. This motivational factor may explain in part the statistically significant positive correlation noted by several investigators (Purkey, 1970) between the self-concept of ability and school achievement. Secondly, this self-concept increases the likelihood that the child will attribute his successes to his ability and effort rather than to external sources. Being successful is more rewarding to a person if he believes that his successes reflect his capacities rather than such factors as excessive effort, good luck or the Mickey Mouse ease of a task (Weiner, et al, 1971). Thus an individual's self-concept as an effective learner is tied in with expectations and attributions of success—which are cognitive events, and also to persistence and effort, which are affective in nature.

It is noteworthy that the cognitive factors we have cited in this paper are different from those traditionally considered in discussions of the learning-teaching process. Whereas the traditional emphases have been upon memory, thinking, reasoning, or following given operations, the cognitive factors we have discussed present a more organizing, exploratory and motivational view of cognition. This view of cognition as an active, sense-making, coping process has received added support during the past decade largely as a result of studies in early development, primate capacities, attitude change and sources of motivation. At this point in time the evidence suggests that cognition provides a way of dealing with the world rather than passively receiving it. Research in this field also suggests that cognition, viewed in this expanded manner, is interrelated and influences the affective component of learning and experience.

These findings interrelating cognition and affect and indicating that cognition is an active, organizing process have several implications for the educational process. For one, they indicate that earlier assumptions of how to motivate the child in the classroom through use of grades, competition and general fear of failure were likely to have been effective on one level but ineffective in another. (Children anxious about failing will indeed strive, but they are unlikely to become interested and involved in what they are learning. In such cases the focus is on warding off disaster and not upon the subject and its relevance to oneself.) Another consideration is that attempts to limit or exclude affect from the classroom have inevitable and significant effects upon student cognition. To limit affect may require curtailing or limiting certain cognitively based procedures with which they are related. This is not to say that affect is or should be the goal of education but rather that affect is an inevitable and integral part of soundly based, cognitively oriented instruction. A third implication is that procedures which utilize and build upon the child's cognitive-affective capacities are likely to motivate and involve him in the process of securing his own education. This is to say that procedures which facilitate attributing success to oneself (build a self-concept as an effective learner) and which give the child a sense of increased power to deal with his world are likely to keep him interested and committed to learning.

During the past few years I have been involved in a collaborative effort to develop and implement a school program that focuses on developing the child's self-concept as an effective learner. This program is currently being practiced at the Bancroft Elementary School in Walnut Creek, California. The principal, Robert Reasoner, is joining us in writing an extended description of the issues, concepts and classroom procedures of this Self-Esteem Education Program (Coopersmith, Feldman, Reasoner, 1973). Before describing some major features of the program we should note that it is based on the premises that self-esteem and achievement can be built together and that enduring feelings of self-worth are most soundly built upon the conviction that one is increasing in personal power and capable of attaining success. The framework we have developed to attain these goals proposes that while teachers should establish minimum standards for performance in basic skills, they should also recognize and reward the different individual strengths of each child. The framework further defines the teacher's role as that of constructing a stimulating, clear and mutually respectful environment and serving as resource and consultant to her students. This explicit redefinition of the teacher's role requires that the students accept more responsibility for their learning and that new duties replace rather than add upon traditional teacher role expectations.

The Self-Esteem Education Program creates an environment in which the child can obtain some basic emotional assurances and satisfactions while at the same time engaging in personal decision-making. In a broad sense the teacher establishes limits, creates a climate of trust and acceptance and then provides various options and alternatives among which the child can choose. As long as the child operates within the limits of the learning situation he is assured of acceptance; within those limits he is given ample opportunity to make decisions as to the kind and level of work he can pursue. The child is aided to attain minimum standards in basic skills but can pursue other areas of particular interest to him with considerable freedom. This model of instruction is basically a decision-making, risk-taking model in which the child can explore his interests and capacities while at the same time being responsible for himself. The child is motivated by having the power of choice and the opportunity to test and develop his judgment. Cognitively and affectively he is the locus of control and the source of action as long as he respects the limits and goals of the school as a place to learn, gain skills and develop capacities. From what we now know and believe about the positive effects of affect and the interrelation of affect and cognition, such a decision-making model which recognizes different child strengths should and does develop motivation in children.

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Learning Styles: Can We Grease the Cogs in Cognition?

Steven R. Wagner and John E. Wilde

The amount of time, energy and ink expended upon explaining IQ differences among various ethnic, cultural and socioeconomically different groups of children have produced little tangible results that classroom teachers might use in the way of instruction, excluding perhaps a self-fulfilling prophecy. The fact that children may have differing approaches to problem solving appears to be a far more productive position from which to analyze their educational needs than to describe them as sensorially deprived, genetically, inferior, or socially psychopathic.

If educators accept and recognize the goal of developing an autonomous individual who is a confident and competent problem solver, they must be able to develop procedures for measuring and evaluating the problem solving styles of individual children. John Holt (1964) succinctly states the importance of identifying children's problem solving strategies when he suggests that "the true test of intelligence is not how much we know how to do, but how we behave when we don't know what to do." If educators can first identify strategies which children use in problem solving when they don't know what to do, perhaps we will be able to move to the next logical step of helping them to internalize effective processes and styles of problem solving which lead to a feeling of confidence in dealing with all of life's problems.

Cognitive style and conceptual tempo concepts apply a unique blending of perceptual, cognitive and personality factors to the measurement of a child's problem solving strategies. The concept of cognitive style avoids the often artificial dichotomy found in descriptions of child behavior which separate these closely associated areas of mental functioning.

Recent research into cognitive or learning styles may provide (if the concept is not accepted uncritically) a better vehicle of matching methodology to individual problem solving strategies—strategies which range along a developmental continuum of psychological differentiation and which are used when the child attempts to organize his environment in meaningful ways.

In a study by the authors designed to explore four dimensions of cognitive style, groups of Anglo, Black and Chicano children from middle and lower socioeconomic backgrounds, either successful or unsuccessful in terms of school performance, were tested to determine if any significant differences existed between and among them. (See Table for a description of some dimensions of cognitive style.)

COGNITIVE STYLE DOMAINS

LOCUS OF CONTROL

External ←	→ *Internal*
Passive approach to environment. Little belief in ability to control own destiny. Perceive others or outside circumstances more responsible than selves for successes and failures. Lives are primarily controlled by fate, chance or luck.	Active mastery of environment. Belief in own competence and skill to effect changes. Perceive selves as responsible for successes and failures. Developed sense of personal causation, autonomy.

FIELD ARTICULATION

Dependence ←	→ *Independence*
Experiences are global and diffused. Organization of whole field dictates how parts are experienced. Less articulated body concept. Self experienced as less segregated and structured. "Reads" social situations accurately. Uses primitive denial and massive repression as defenses. May have identity problems.	Experience is delineated and structured. Parts of field experienced apart from the whole. Perceptually has developed flexibility of closure and spatial decontextualization. Sophisticated body concept and sense of separate identity. Use isolation and intellectualization as defense.

MODE OF CONCEPTUAL TEMPO

Impulsivity ←	→ *Reflective*
Impulsively selects problem solution with minimum of deliberation in problem solving situations containing response uncertainty.	Reflects upon validity of alternative solutions in problem solving situations containing response uncertainty.
Shorter reaction time to question and faster tempo of processing information.	Longer reaction times to questions and slower tempo of processing information.
Tend to carelessly scan stimuli.	Tend to make more careful visual search of stimuli.
Minimal anxiety over making incorrect responses.	Overtly concerned about making a mistake.
Minimal fear of breaking social norms.	Tends to reflect anxiety over adult approval and meeting social norms.
Tends to believe has little influence upon own destiny.	Tends to believe has power to influence own destiny.
Pathology reflected in externalized symptoms (aggression, lying, cheating, delinquency.)	Pathology reflected in internalized symptoms (fears, phobias, signs of guilt).

PREFERENTIAL MODE OF PERCEPTUAL ORGANIZATION AND CONCEPTUAL CATEGORIZATION

Relational ←	→ *Analytic*
Passively perceives stimulus field as undifferentiated whole.	Actively analyzes and differentiates stimuli into subelements of the whole.
Passively restricts attention, attending to irrelevant stimuli.	Actively scans stimulus field, controlling irrelevant information.
Merges stimuli into undifferentiated impression.	Recognizes gradual changes in sequentially experienced stimuli.
Tends to use many global categories for classfying information.	Tends to use fewer, exact categories for classifying information.
Tends to group stimuli	

on the basis of functional relationships.	Tends to refer to the objective attributes shared by grouped stimuli.
Tends to be impulsive in approaches to problem solving.	Tends to be reflective in approaches to problem solving.
More perceptually and cognitively constricted.	More perceptually and cognitively flexible and fluent.
Less achievement motivation. Less able to identify and describe feelings.	Tends to be task oriented and achievement motivated. More independent and autonomous. More capable of identifying feelings.

The research design of the study incorporated both multiple-analysis of variance and correlational techniques. The results of the study can briefly be summarized as follows:

(1) Middle class children, regardless of ethnic origin or sex, displayed significantly more achievement motivation than did lower class children irrespective of ethnic group or sex.

(2) Middle class children, regardless of ethnic origin or sex, displayed a significantly more internal locus of control than did lower class children irrespective of ethnic group or sex.

(3) Academically successful children, regardless of ethnic origin, SES or sex, were significantly more field independent than academically unsuccessful children irrespective of ethnic origin, SES or sex.

(4) Academically successful children, regardless of ethnic origin, home background or sex, were significantly more reflective than unsuccessful children.

(5) Academically successful children, regardless of ethnic origin, home background or sex, were significantly more analytic than unsuccessful children.

Correlations among the four dimensions of cognitive style revealed that a child who displays a significant amount of achievement motivation is also relatively field independent, has an internal locus of control, is more reflective in evaluating solutions, is more analytical and flexible in dealing with perceptual and cognitive categorizations and was more verbally fluent. Understandably, these children demonstrate greater achievement in the typical school setting. The preceding description may well fit Banta's pattern of the autonomous learner.

Banta (1970) defines the term autonomy as "the presence within a child of self-regulating behaviors that facilitate effective problem solving." He suggests that "these are not abilities which the child is forced or pressured into developing, but those abilities which the child enjoys developing in the process of his individually chosen work and play." He proposes that these behaviors include curiosity, exploratory behavior, persistence, resistance to distraction, control of impulse, reflectivity, analytic perceptual processes, and innovative behavior. Banta (1966) sees education for autonomy as having two basic principles. (1) "Man must see himself as possessing control over his behavior, he must refuse to regard himself as the victim of circumstances, and he must deny that his operations are imposed from outside of his system." (2) "Man cannot function effectively unless the object of (his) operations is external. Man must experience external goals and aspirations, external involvements in the world."

In terms of developing academic skills, the autonomous child appears to be more productive. If autonomy is a desirable educational goal for all children, what about those children whose cognitive styles reveal an external locus of control, a lesser amount of achievement motivation, a relatively field dependent orientation coupled with impulsivity in evaluating hypothesis solutions and a more relational and less flexible handling of perceptual and cognitive categorization? Can we develop instructional modes to help all children become more autonomous so that they can utilize both analytical and relational strategies of learning?

Autonomous children have developed strategies which enable them to read, to function successfully in a variety of classroom situations which are filled with ambiguity and at times intellectual and emotional frustration, and to cope with the environment of the public schools. Less analytical children have also developed strategies for dealing with the school milieu but these strategies appear to be counterproductive for actualizing intellectual and affective potential. It is not proposed that a difference in cognitive style means a deficit or a limitation in potential but only that a variation in style indicates a difference in position along a cognitive developmental continuum. Consequently, high-powered crash programs designed to speed up rates of cognitive growth will not be successful in terms of the cognitive style dimension. Such programs are predicated upon a pathological rather than a developmental model, whereas the latter appears to provide a more appropriate rationale for developing autonomy in children.

If the concept of cognitive style is to be used by teachers, they must first recognize that there is a difference in problem solving strategies among children and that these have developed over time principally through participation in primary socializing groups outside the school. These strategies are functionally appropriate for dealing with the street environment and are brought to school fairly well formed. Modifying certain aspects of those strategies may be desirable in order to facilitate movement toward autonomy. Other dimensions of learning style, particularly those dealing with relational qualities, may well be reinforced as opposed to modified. Research to date suggests that, given recognition and identification of different cognitive styles and conceptual tempo, a degree of modification is possible by utilizing techniques of direct instruction, reinforcement and modeling.

Baird and Bee (1969) demonstrated through reinforcement techniques that the conceptual styles of children could be altered in predetermined directions. However, they also suggested that it might be easier to induce lasting effects in the direction of what they considered to be the more developmentally sophisticated analytic conceptual style. Kagan et al. (1964) found that children who were instructed to delay responses developed longer response latencies as well as more analytic conceptual responses. Ostefeld and Neimark (1967), through instructional methods, caused relational children to become more analytic by requiring subjects to delay or increase response time to cognitive style test items.

Debues (1970) was able to modify the cognitive styles and conceptual tempos of children through a combination of modeling and reinforcement techniques. Impulsive children were required to observe both reflective and impulsive models. While the impulsive models were not rewarded by the instructor, reflective performance was praised. Both boys and girls observing this situation became more reflective. Denny (1972) demonstrated that relatively permanent changes in the cognitive styles and conceptual tempos of children could be obtained as a result of observing a model. In this study, children witnessed a video-taped presentation of a model depicting either analytic or nonanalytic cognitive styles or reflective or impulsive conceptual tempos. Denny also noted that the most permanent changes which were produced utilizing this technique occurred in the developmentally more sophisticated analytic direction. Permanent changes toward increased reflection and impulsivity were obtained, depending upon the conceptual tempo observed.

Finally, Scott and Sigel (1965) studied the relationship of teaching methods to cognitive style, finding that fourth and sixth graders who had been exposed to Suchman's inquiry approach had a greater preference for an analytic cognitive style than a matched group who had been taught the same science concepts by "traditional methods."

To answer the question, "Can we grease the cogs in cognition?," then, if the ingredients in the "grease" include intervention programs designed to alter cognition radically or speed up the developmental process of cognitive differentiation, the answer is "No." As Banta indicates, force and pressure will not foster autonomy.

If, however, the ingredients in the "grease" include recognition of varying positions on the cognitive style and conceptual tempo continuums, then cognition in terms of conceptual style probably can be modified, to a degree, through instructional, reinforcement and modeling procedures. The suggested direction of such an effort appears to be toward greater autonomy, which calls for an educational environment based upon the development of curiosity, exploration, self-confidence, and, ultimately, reflective and analytic perceptual and cognitive orientations which allow for flexible and effective approaches to problem solving throughout life.

In conclusion, the permanence and generality of these research effects are essentially unknown but promising.

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Beyond Morphemes and Phonemes: Getting the Meaning from English Spelling

F. H. Brengelman

It has often been asserted that reading is nothing more than getting from printed characters the same information that one gets from spoken phonemes. That written language could in any sense be a language in itself not totally derivative from speech has been denied, sometimes even by linguists who recognize the existence of styles and registers in spoken language and who are fully aware of our capacity to turn almost anything in our common experience into a means of communication. Bloomfield remarked that,

> "literary people entertain the notion that graphic eccentricities such as the spelling of *ghost* and *rhyme* somehow contribute to the connotations of words; for a small minority of over-literate persons they undoubtedly produce the sort of bookish connotations which good writers try to avoid." (1)

But a comparison of writing systems around the world shows that there is no necessary connection between speech and writing. On the one hand, Spanish spelling is a fairly close representation of the surface segmental phonemes of the spoken language. Chinese, on the other hand, is written with symbols which in general stand for concepts, and the same characters can be used not only for the several mutually unintelligible dialects of Chinese but for such totally unrelated languages as Korean and Japanese. Any combination of phonologically and semantically related written symbolism is possible. English is obviously somewhere in between, undoubtedly closer in principle to Spanish than to Chinese; yet we use quite different spelling systems for *stiff* and *sylph*, for *Sam* and *psalm*. The first words in each instance seem to be spelled phonemically while the second provides information about the origin of the word and seems to carry secondary literary and aesthetic implications.

A consideration of the conditions under which writing systems develop and function shows that writing can never be merely derivative speech. Writing must compensate for speech signals which cannot be conveniently written down — time, intonation, gesture. Furthermore, the writer lacks the advantage of an informative situation and feedback from the person addressed. In addition, writing is generally addressed to the public while speech is used most frequently among intimates. Thus writing must be quite different from speech: it must be much more free of ambiguity and much more general. And it must find lexical and grammatical means to compensate for what is signaled by other means in speech. But the writer has certain advantages: writing can be much more compact, and much more can be suggested by fewer signals because the reader can set his own speed and re-read if necessary. Readers, on the other hand, tend to be more critical than listeners and to expect that what they read will be edited to achieve maximum economy, clarity, and grace. The consequence of these important differences between speech and writing is that writing tends to take off on its own and to become to a considerable extent a signaling system independent of speech, with its own conventions and even its own vocabulary and grammar.

> Writing must select (and create) words and grammatical constructions which permit only one interpretation and which are maximally precise.
>
> Writing must be economical: it is characterized by maximum sentence reduction and maximum meaningfulness of each unit.
>
> Writing, unlike most speech, seeks elegance: balance, rhythm, and variety.

All of these are possible in speech but hardly expected.

A different effort is required of the reader than of the listener. He needs to know how to recognize and to respond to the devices by which writing compensates for the loss of signals used in speech. Thus the sentence structures which compensate for the loss of stress in spoken language must become familiar to him, as well as the special vocabulary of writing. Ultimately he will acquire a large reading vocabulary which may be quite different from his spoken one. Very likely he will know many written words which he is not even able to pronounce—words like *waft* and *wont*, *cabala* and *diocesan*. The reader also needs to become conscious of the features by which writing goes beyond speech, the set of signals not readily available in speech which express focus, level of style, register, and the like. A written word suggests by its surface form at least the following information to people who are well enough trained to get it:

its history: its language of origin and the changes it has undergone
its morphological relationships, often lost in speech—connecting, e.g., *fragment* and *fragile, posit* and *position*
its register and style.

Written English can by itself be considered a register of English, though space does not permit developing that argument fully.(2) It is clear that beginning about the year 1500 influential English writers began using spelling deliberately to provide information beyond mere phonemes. Words of Greek and Latin origin *which were used in technical and academic contexts* began to be spelled more nearly as in the languages of origin. Common words from those languages continued to be spelled as in ordinary English.(3) Milton shows a good eye for the implications of spelling, making use of the fact that the least meaningful words of English, especially the function words tend to have abbreviated spellings. Thus he distinguishes stressed and unstressed "he" by the spellings *hee* and *he*. This principle also seems to account for spelling of *farr, warr, kenn, summ, gemm, swumm*, and *clanns*. After 1500 "eye dialect" became available to writers—a means of suggesting a character's lack of education or intelligence by spelling some or all of his dialogue phonemically.

That skilled readers of English are aware that our spellings carry implications of style and register seems to be demonstrated by a study I made of the ability of upper division college students to classify nonsense words as written or spoken, academic or nonacademic, formal or casual, and emotive or non-emotive. The word list consisted of "homophones," each with a classical and a more typically English spelling, randomly arranged. The students were asked to rate each word on a scale of 5-1 according to the criteria mentioned above. The results were strikingly similar and supported the hypothesis much more strongly than I had expected, despite the fact that less than 5 percent of my informants had studied any Latin or Greek and most were not even majoring in languages or English. Thus, for example, *rhespal* was overwhelmingly rated as written, academic, formal, and non-emotive, while *resple* was rated the opposite of these.(4)

The study of English homophones also produces findings which suggest that English spelling is meaningful in itself. It is clear that most English homophone pairs would not need to be spelled differently if all that were involved was correct word identification, since most of them belong to such different grammatical and semantic classes that the context would usually resolve any ambiguity. But English does maintain separate spellings for hundreds of homophones. The existence of separate spellings for homophones seems to make possible a degree of experimentation with sentence structure and a degree of economy which would be impossible otherwise. For example, Dylan Thomas's phrases "time allows in all his turning so few and such mornings songs" and "nothing I cared in the lamb white days."(5) Without the alternative spellings, Thomas's clearly intended puns would be impossible, since he uses a context which suggests one homophone and a spelling which suggests the other. But students who relate spelling units to phonemes rather than to concepts would hardly recognize this.

It seems clear that a skilled reader must be highly conscious of spelling. It also seems clear that spelling needs to be studied for its own sake, not just as a representation of speech. Some activities that teachers might consider include the following:

> Comparison of the secondary implications of word pairs like those mentioned above: sylph and cat, Sam and psalm, with a consideration of the contexts in which each might be expected and the rhetorical effect these spellings produce. The spelling and word formation rules that characterize academic and scientific language might be examined and contrasted to those that characterize ordinary English. Students could consider what kind of words are likely to contain ch = /k/, ph = /f/, ps = /s/, mn = /n/, etc.; what words show vowel and consonant doubling; what words seem to avoid "ck" and the like; in other words, they can come to recognize the features that mark our academic and technical words.
>
> Students might make experiments with "eye dialect," becoming aware of what is lost—and what new implications emerge—when traditional spelling rules are violated. Poems using homophones might be examined to see what special effects writers are able to obtain because distinct spellings are available.

In summary, it is clear that the spelling of a word tells us much more than merely what word in our spoken vocabulary it happens to be. A skilled reader is sensitive to all the signals a skilled writer may make use of, including alternative spellings.

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A Combination of Strategies for Decoding

Kenneth J. Smith

Historically, teachers of reading have tried to determine an approach to the teaching of decoding (word recognition) which involved the utilization of some given word recognition skill or clue. This progressed from the alphabet method to syntheticphonic methods to wholeword memorization to the use of context clues. Fortunately, in recent years teachers have recognized that no single clue or decoding strategy is sufficient by itself and therefore teachers have tried to provide children with a choice of clues. For instance, if the child did not recognize a word at sight, he is often instructed to try to "sound it out." If he cannot sound it out, he may then be instructed to read to the end of the sentence and see if he can determine what would make sense for the unrecognized word. Finally, he may be instructed to go to the dictionary or ask someone. This choice of strategies certainly is superior to the concentration on a single clue which may or may not serve much purpose in the individual instance.

However, even a choice of clues has an inherent problem in the elimination of error. If a word is "sounded out," there are immediate problems. First, the orthography may or may not give a clear indication of the phonemes represented. As an example, "colonel" is a very limited orthographic indication of the word represented. Secondly, even if the word can be sounded out with a great deal of accuracy, the lexical identification out of context is certainly imprecise. For example, the word "run" has listed in the *Random House Unabridged Dictionary* some 172 different meanings. It is not possible to identify which of these meanings to utilize out of context.

Context as a clue also has its limitations. It is clear that the words "black" and "white" probably could serve their semantic and syntactic functions interchangeably. Seldom if ever is there only one word which could "make sense" in a given position in a sentence.

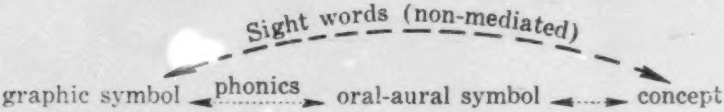
The limitations of "structural" (morphemic) analysis are well known. As an illustration, the word "chalkboard" could easily be decoded as a board made of chalk. The superficiality of such clues, plus the historic changes in denotations, make the use of such clues in isolation quite imprecise.

Finally, as suggested above, finding a word in the dictionary still will not be entirely satisfactory, for one still has those 172 definitions of the word "run" with little indication of which to select. The common practice of selecting the first given definition has obvious dangers.

It would seem then that the only viable solution to the elimination of error in decoding is the use of a combination of strategies, that is, the use of more than one clue for each word to be identified.(1) A reader approaches any word with the possibility that it may be any one of all of the words existing in the English language, eliminating for the moment the fairly common use of foreign words in the midst of an otherwise English discourse. The reader must then begin to narrow the possibilities from the total number of words until he eventually arrives at the single word which is intended and has eliminated essentially all possibilities for error. The use of the single clue of context usually will eliminate the overwhelming majority of the words in the language, leaving only those few which can serve the semantic and syntactic functions required by the sentence. The addition of the graphic clue will in many cases eliminate all of those remaining possibilities except the one intended. For instance, in a sentence such as "We went for a swim in the ________________," the unknown word might reasonably be any of such words as lake, river, pond, pool, or nude. If, however, the reader could have had a single clue of the initial "l," he could have identified the unknown word as "lake" with virtually no possibility for error. If, however, the unknown word started with a "p," it might have been either "pool" or "pond," so that the use of context plus the initial letter would still leave an unacceptable possibility for error. In this case the addition of a final "l" would again eliminate virtually all possibilities for error and therefore could result in quite satisfactory decoding. The effort to "sound out" the word "pool" in isolation, that is, without the use of context, could very reasonably have resulted in the identification of the unknown word as either po͞ol or po͝ol (pull). It becomes clear then that only through a combination of strategies, in this case phonic plus context, is it possible to identify the unknown word.

Certainly, for a mature reader this use of a combination of strategies takes place very quickly and probably in most cases unconsciously. The combination of clues for an adult reader should almost always be that of sight words (configuration) plus context. A mature reader will find himself "sounding out" only a relatively few words which are unfamiliar to him. Even then, this effort will be successful only in the unusual case in which the word is in his speaking-listening vocabulary, but not in his reading vocabulary. For a child who is learning to read, however, the circumstance is quite different. He recognizes at sight a relatively limited number of words, a far smaller number than are present in his speaking-listening vocabulary. Therefore, phonic clues are very functional, in combination with context, for the beginning reader, but relatively less functional for the more mature reader. This situation presents the problem that we may train a child as a beginning reader in a strategy which is helpful in the process of learning to read, but may be either largely useless or even inhibitory for the mature reader. (2) The above circumstance makes particularly critical the need for a combination of strategies.

One can illustrate the decoding process as follows:



In an alphabetic writing system such as English, the graphic symbols (graphemes) represent not the concepts that are needed for communication, but rather represent oral-aural symbols (phonemes), which in turn represent the concepts. As long as the reader is having to use the individual graphic symbols in this manner, he is going through a mediating process which is between the graphic symbol and the concept. This process is both time consuming and fraught with possibilities for error. Given enough experience with reading (repetition), the reader may, and the mature reader does, eliminate the need for this mediating process and go directly from the graphic symbol to the concept. If, however, the training has been limited to a concentration upon going through the mediating process (phonics), there is great danger that the apparently successful beginning reader will never achieve the goal of mature reading.

The above is not an argument for the elimination of phonics. This would be quite foolish in an alphabetic writing system such as is utilized in the English language. It is an argument for the utilization of phonics *in combination* with other clues in order that errors may be eliminated and that a child may not be locked into a single strategy which may indicate great success in the primary grades, but which may cause great difficulty in later grades.(3) Certainly, the reader is well acquainted with the common occurrence of the child who has a great deal of facility at "sounding out" those carefully selected words in primary textbooks, but who finds himself unable to read, as a thinking process, in later grades or in the secondary school. The many research studies which indicate an apparent success through concentration upon the mediating process in first grade in no way refute this argument, which concerns itself largely with progressing toward mature reading ability.(4)

In an effort to determine the relative usefulness of various graphic clues in combination with context, we have conducted a study using graduate students as subjects and a modified cloze procedure as an instrument. Graduate students were used, not because we think that their reading ability is comparable to that of elementary school children, but because our purpose was to determine the degree to which sufficient information was *available* for use in decoding, rather than an indication of how much of that available information the reader actually was able to utilize. Certainly, one cannot expect an elementary school child to use information efficiently when he has not been trained to do so. We assumed then that these graduate students would be able to use the decoding data available to them. Since this was not always true, the figures which we present in this paper are very conservative. That is to say, one might precede each datum with the words "at least."

Our procedure was to develop instruments taken from basal readers, grades one through eight, using different content areas. Selections were chosen from these basal readers and reproduced with the deletion of every seventh word. Graphic clues were provided for the deleted word in various combinations as indicated on the chart below. Subjects were then asked to fill in their best judgment of the exact word which had been deleted. The response was scored as correct only if the exact word had been indicated. When the same passage was used more than once, the sample group of subjects was changed so that no learning effect was present. No statistics were involved other than the use of simple percentages, for our purpose was to see what practical advantage obtained to the addition of further graphic clues, not to determine a statistical significance which would show no practical advantage. Also, no study was made of the ability to use context without the addition of graphic clues, for this matter has been widely studied and was not directly relevant to our purposes.

Story Title & Grade Level	Initial Letter Only	Initial Consonants Only	Initial Consonants or Cluster	Initial Consonants or Cluster or Vowel	Initial Consonants or Vowel & Last Letter
Susan (1) and the Telephone	92.5%	96.1%	98.2%	97.8%	100%
Fish (1) for Dinner	94.0%		91.3%		
Susan (3) Bearskin	90.9%	85.4%		89.7%	95.8%
Light- (3) houses			82.8%		95.2%
Picture Visit to FBI (6)			69.5%		85.8%
Thief (6) of Silver Spring	79.2%	72.3%	78.2%	75.1%	84.1%
Inventions (7-8)	84.2%	76.5%			
British Isles (7-8)	84.5%	73.6%			

It is particularly interesting to note that the use of context plus the initial letter on the first grade level resulted in 92.5% accuracy on one passage and 94.0% on a second. This leaves only some six to seven and one-half percent for all other word recognition clues to contribute! Furthermore, the use of the initial consonant or vowel plus the last letter resulted in 100% accuracy. Of course, this result is to some degree a factor of the vocabulary control in first grade reading material. Nonetheless, it would appear that no "structural clues" had anything left to contribute and that many phonic clues were unnecessary, for the words could be decoded with complete accuracy without them. Predictably, one could not achieve such accuracy as words became longer and more complex and as vocabulary control was less restrictive. Nonetheless, on a third grade material one could achieve 90.9% accuracy with use of only the initial letter and 85.4% accuracy with only the initial consonant (since relatively few words begin with vowels), and that 95.8% accuracy could be obtained with only the initial consonant or vowel and the last letter. This leaves only some 9% for all word recognition clues other than context and the initial letter to contribute, and only 4.2% when the last letter is given. This would indicate that all of the phonic lessons on consonant clusters (blends), vowel digraphs, silent -e principles, hard and soft c and g, syllabication, and various structural clues, subjects which take such a large amount of time and which cause children such great difficulty, would have only 4.2% to contribute to decoding on this level. Yet in the standard materials presently being used in first and second grades most if not all of these subjects already have received a great deal of attention. Of course, by the time the child is in the sixth grade, these graphic clues have made less of a contribution, for again the words have become more complex and have been drawn from other than the Anglo-Saxon heritage from which our "phonic rules" are drawn. Even so, the initial letter in combination with context is still sufficient for decoding some four out of five unknown words and the addition of the last letter to initial consonant or vowel contributes over 84% of the unknown words. Interestingly, in a junior high school material, the results are even better.

It is true, of course, that the use of context clues assumes that the other words surrounding an unknown word are known. However, in this study as indicated above, a child is called upon to recognize only some 85.7% of the words in a selection. That would be far below the 95% standard required for word recognition in most informal reading inventories. (5) Therefore, if a child could not recognize the other words on the level required in this study he would be in material far, far too difficult for reasonable instruction. Again, the above is not an argument for the elimination of that phonics which we commonly teach, but is an argument for reordering of priorities and a change in procedure. It appears from this study that a combination of context with limited graphic clues is sufficient for the decoding of the overwhelming majority of unknown words which are in the reader's speaking-listening vocabulary. It further is clear that the use of the initial consonant with context contributes the greater portion of the needed information without further graphic clues.

Therefore, a concentration in the beginning reading process upon the use of context in combination with the initial consonant would seem to be far the more desirable procedure, leaving other clues, which have relatively little to contribute, until these two have been fully mastered.

The implications for change in kindergarten and first grade are tremendous. If a child in kindergarten could be taught on an oral-aural plane so that the use of context clues became an essentially automatic process, then the transfer of this skill to the visual plane plus the addition of the ability to use the initial consonant in conjunction with it could immediately solve virtually all of his problems in decoding unknown words. This conclusion, of course, involves the assumption that children can be taught to utilize the information which is available. The ability of the English-speaking child to speak and understand sentences of the English language provides adequate support for that assumption. Without this ability he would be unable either to speak intelligibly in the English language or to understand the speech of others. The utilization of this skill can be further trained by allowing the child to "fill in" deletions as we talk or read to him. Particularly valuable for this kind of training are "structured language" materials, such as *Kinder Owls* or *Little Owls*, or in fact virtually all of children's poetry.(6) A child can quickly pick up a syntactic pattern and begin to contribute those portions which are left out. This can be transferred to reading as soon as the child is able to recognize enough words at sight to provide him with sufficient contextual clues. As soon as phonic training is begun, it should be assured that it is always in conjunction with context, never in isolation, for the assumption that strategies which are taught separately will be used in combination is certainly a fallacious one. A study recently completed by Joseph Freeman at the University of Arizona which used similar procedures with children did not yield results which were in any way comparable with the results indicated in this paper.(7) However, it should be noted, as it was by Freeman, that these children had received limited training in the use of context clues and probably none in the use of a combination of strategies. Therefore, the only point which is open to question is whether children in primary grades can be trained in a combination of procedures. In fact, although we must study this matter to determine the degree of efficiency, it is clear that children can use these clues in combination, for otherwise they would be unable to decode words with any reasonably acceptable degree of accuracy. Therefore, to repeat, we wish to make a very strong recommendation that the process of teaching the decoding of unknown words emphasize the use of context clues *in combination* with the initial consonant, leaving other clues for decoding unknown words until the child has achieved a great deal of facility with context and initial consonants, since these have been shown to make the greater portion of contribution to his success.

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The Process of Perception in Wine Tasting and Reading

Peter Dewitz

America is not the only nation having problems rearing and educating its young. Recently, the French have identified a peculiar educational problem. In their nation wine is an integral part of the economy and culture. Wine drinking, tasting and a sense of connoisseurship are essential skills for French youth to develop if they are to take their place among the leaders of their community. To be fully educated the Frenchman must be able to taste wines with discrimination. Aware of this fact, the French have discovered that a small number of their youth fail fully to develop this ability to differentiate wines. Although able to distinguish a white wine from a red wine, they can't tell a Burgundy from a Bordeaux, much less a Barsac from a St. Emelion. For the growing French boy this is a serious but not total disability.

Increasingly aware of this problem, the French have turned to their educational establishment to see if this group of disoenoletic (an inability to taste wines) children could be helped. Having accumulated considerable knowledge about perception and perceptual development, French psychologists and educators used this knowledge to formulate some remedial programs for these children.

The educators reasoned that a fully developed sensorimotor capacity was a prerequisite for developing olfactory discriminations. Many French schools then began special classes in perceptual-motor training. Children threw bean bags at walls, walked along balance beams, jumped on trampolines and did assorted perceptual tasks with pencil and paper. The children worked with form boards, kohs blocks, and other concrete materials. Unfortunately, these disoenoletic children were not helped and the educational problem of wine tasting grows in France.

The foregoing example is fictional; educators have not yet identified children with a wine tasting disability, but they could. In America we have succeeded in identifying, labeling, and attempting to remediate learning problems whose existence is questionable and whose incidence is surely inflated. For several years, educators, psychologists, and physicians have been convinced that perceptual-motor abilities were a large component of the reading process and that a deficiency in this mechanism accounted for a significant proportion of the reading problems in our schools. Armed with these assumptions and some questionable research, educators have designed elaborate remedial procedures stressing perceptual-motor training for children with reading problems. In a desire to solve the reading problems of our youth, many educators have demonstrated the same superficial and narrow logic of the imaginary French.

While perceptual-motor training has been spreading in public schools and private reading clinics, a number of psychologists have been working toward a fuller understanding of the perceptual process, particularly the process of word recognition. What have been their findings regarding the nature of perception and the effectiveness of visual-perceptual screening and training?

Perception is the process of recognizing and giving identity to the world around us. It is a cognitive process that seeks to make sense of raw sensory input. Perception is not a static mirror of the environment, but an individual's active interpretation of his sensory world. As the child grows and encounters his world, he continually seeks to understand the complexity of his environment and to reduce the seemingly random mass of objects and events to a manageable and predictable order.

This growth of understanding is the result of perceptual learning. "Perceptual learning . . . refers to an increase in the ability to extract information from the environment as a result of experience and practice . . ."(5) The child and the adult seek to discover the dimensions that distinguish one stimulus from another. As these dimensions are learned, finer discriminations can be made.

To understand the process of perceptual learning, two critical questions must be answered. They are, What is learned, and How does this learning take place? According to one theory, templates or mental images are the product of perceptual learning. As the average toddler explores his world, he comes to recognize and identify the objects in it. One day he encounters a French Provincial chair in its rococo splendor. The child asks, "What's that?" and you say "chair." According to the template matching theory of perception, the child forms an image, a template of that chair in his mind. When he next encounters another chair, he compares the new input with the old template and, if they match, he says "chair" and in so doing we presume he has made some sense out of his environment.

The following week our mythical child visits some avante garde family friends and he sees their new plastic and chrome pedestal chair. This image does not completely match his stored template. Is he able to identify the new stimulus without help? Chances are yes, but the template matching theory cannot account for his success. Under the template matching theory, the child must store a new template for every object he encounters. Perception then consists of sorting through all these templates until the one that is congruent with the stimulus to which we are attending is found. This model of perception has two drawbacks: (a) it demands a very large memory capacity to store all the templates and, (b) the ability properly to identify new phenomena which slightly deviate from all stored templates.

The *feature detection theory* of perceptual learning resolves these problems. What the child learns when he first encounters a chair is the features or attributes of a chair. He constructs a set of criteria or a list of features in his mind. The features for a chair might be a set of vertical and horizontal lines in a particular configuration and its function. The next time he encounters something with this set of features he will identify it as a chair. Only the feature lists, not the numerous templates, need to be stored. As for the ultra-modern pedestal chair, the child searches for a set of features that approximates this stimulus and then bases his identification upon this list of features.

The distinctive features are detected through a process of abstraction. The learner must discover those features which distinguish one stimulus from another. The features or distinguishing attributes are extracted from the general field of information. The learner extracts the invariant features of an object and simultaneously attenuates or suppresses the variable noncritical features of the object. The perceptual process is one of developing feature lists for objects, events, qualities, symbols; i.e., everything in the world.

The identification of letters and words is merely the extension of this perceptual learning ability to a new set of stimuli. The child learns to discriminate and identify letters and words on the basis of their distinctive features. The young reader soon learns to recognize letters with many different type faces in various environments. The feature detection model more easily explains this ability than does a template matching model. The child need not learn a new template for each style of writing, rather he learns a set of features for each letter, which he can apply to all printing styles. The feature detection model accounts for the child's ability to generalize.

While the exact features of letters are not known, some evidence suggests that features include such criteria as horizontal or vertical lines, closed or open figures, curved or angular lines. (3) When children first encounter letters, some confusion is natural and expected. Yet the errors they produce suggest that the learning of letters is a developmental phenomenon. Young children confuse similar letters. *E* and *F*, or *b* and *d* are confused because they share similar distinctive features while *o* and *x* do not. Eleanor Gibson suggests that gross dimensions of difference are learned first and then finer discriminations qualify these dimensions. (4)

The problem of *b* and *d* reversals indicates a new phenomenon in perceptual learning for the child. From past experience, the child knew that an object maintained its identity regardless of its position in space relative to the viewer. An inverted car is still a car. Not so with some letters, a reversed *b* produces a *d* and an inverted *u* is an *n*. The child must learn that the position of a letter is one of its distinctive features. The reversal of *b* and *d* may also be the result of auditory confusion. As graphic forms have distinctive features, so do phonemes. According to Jacobson and Halle, the phoneme /b/ and /d/ share 8 of 9 distinctive features. (8)

The distinctive features of letters and words are learned in the same manner as the connoisseur learns fine old wines. Each must have repeated practice discriminating various stimuli. Gross degrees of differences are learned first thus becoming the basis for finer discriminations. Finally one can achieve William James' classic description of the expert ". . . [who] will distinguish by taste between the upper and lower half of a bottle of old Madeira." (9) James knew this involved practice with wines and not with other unrelated stimuli.

This obvious strategy has not been employed in most visual perceptual training programs that seek to improve reading. While extensive practice with letters and words is neglected, children are asked to differentiate geometric shapes, chickens from ducks, and indicate which of four identical objects is not facing the same direction as the others. If the theorizing and research into distinctive features has any meaning, then these typical perceptual programs should have a negligible effect on improving word identification and reading comprehension.

The research on visual perceptual training confirms our expectations. After reviewing the research several writers have generally concluded that these educational experiences have little or no value. Hammill reviewed 25 studies which attempted to train visual perception with the intention of improving reading. (7) Twenty-one of these studies concluded that visual perceptual training will not improve reading; the other four achieved some qualified success but the qualifications were quite limited. Hammill was forced to conclude that visual perception itself may not be trainable especially in the manner suggested by Frostig (2), Kephart (10, and Barsch. (1)

If we attempt to help those few children who are having difficulty discriminating graphic patterns, then we should point out those attributes which help the child make discriminations. Critical dimensions of difference can be accentuated perhaps through color coding and non-critical attributes faded so that the distinctive features are more easily noticed and the process of abstraction is simplified. (13) These exercises are not suggested for all children, but only for the one or two percent of a school's population who might be experiencing difficulty in visual perception.

The apparent failure of visual perceptual training to improve reading ability has led to the examination of the relationship of visual perception to the whole reading process. Hammill reviewed 42 studies that correlated tests of visual perception with reading comprehension. Only 12 met his statistical and research criteria. Of these 12, only four reported coefficients greater than .50 and all these had some strict qualification. Hammill concluded that visual perception and reading comprehension are not related in any practical or meaningful degree in first and second grade pupils. (7)

Others have reported that the most widely used tests of visual perception, the Frostig Developmental Test of Visual Perception and the Bender Visual-Motor Gestalt Test, may not be evaluating what they purport to test. Factor analyses of the Frostig Test reveal that it might be a test of direction following, with one general component of "perceptual organization," not the five distinct skills of the test. (12, 15) Research with the Bender Visual-Motor Gestalt Test suggests that although a child cannot copy these figures, he may easily discriminate subtle variations between them. Discrimination of figures seems to be independent of figure production. (17)

Considering contemporary models of the reading process, this negligible relationship between visual perception and reading comprehension is expected. Reading is only incidentally visual.(11) The fluent reader draws upon much more than visual information as he identifies words and creates meaning. Semantic information, syntactic structure, phonological and orthographic rules are available to the reader.

The identification of words in context, an aspect of the reading process, is accomplished through a compilation of evidence. In context, many words can be identified simply through semantic and syntactic information. If a passage is about ships, one may expect nouns, adjectives, and verbs of a nautical gender. In a particular sentence the word *the* establishes an expectation for a forthcoming noun. If the next word begins with the letters *har*__, a good guess would be the word *harbor*. The identification of words in context does not demand a full examination of their visual distinctive features. In a simple cloze procedure most adults will be correct in supplying the deleted words 80 percent of the time. This percentage improves to 90 percent by supplying the initial letter of the deleted words.(14)

Even beginning readers in the first and second grades use syntactic and semantic information. The oral reading errors of first graders suggest that word substitutions, omissions, and insertions obey syntactic constraints. Children substitute nouns for nouns, but rarely verbs for nouns. They pay attention to the meaning of the passage and use this semantic information to identify words. Even at this early stage of reading when visual perceptual skills are most important, children use more than visual cues to identify words.(6, 16)

The best research evidence and theoretical writings undermine any consideration that visual perceptual training will prevent reading problems or that it can be used as a remedial procedure for children with reading disabilities. The concept of distinctive features and our slowly growing understanding of the reading process invalidate most visual perception programs that intend to improve reading.

In light of this knowledge, one can only wonder and rage at the continued growth of visual perceptual training programs in public schools and private reading clinics. Recently, I have witnessed a growing proliferation of these programs in many elementary schools. Each is a copy of its predecessor, continuing the same outmoded theoretical notions. While the intent of these programs is admirable, they are damaging children. The hours spent on the balance beam and with the form board in order to improve reading ability, are hours that could be spent in more useful, valuable, and exciting ways. It is the responsibility of program planners in the schools to become more knowledgeable of research findings and adjust their program accordingly. Rearranging blocks will not improve wine tasting ability just as it will not improve reading.

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Medical and Epidemiological Aspects of Reading Disability

H. R. Huessy

Healers through the ages have helped people with ill defined problems through the use of leadership, social support, opportunities for constructive participation and expectations. 70 or more percent of patients coming to a family physician today are helped by these same means. (See Hausman, William and Rioch, David McK., "Military Psychiatry: A Prototype of Social and Preventive Psychiatry in the United States," *Archives of General Psychiatry,* 16 (June 1967), 727-739.) These four factors have been shown to influence the ability of an individual or social group to cope with stress. In the process of applying these non-specific therapeutic techniques it always is tempting to think that some technical aspects of what we did was responsible for our success. This leads to fads, of which we have had our fill in the field of reading disability.

Another contribution medicine can offer is to point out that cause and treatment often have little relationship to each other. We need to know causes for prevention but not for treatment. There is something very seductive about rational causes. When the teacher and mother of a learning disabled child first meet, their causal thinking has led them to blame each other, rather than to the recognition of a mutual problem of unknown or at least multiple etiology.

What epidemiological knowledge do we have that relates to learning disabilities?

1. Thomas, Chess and Birch have shown that children are born with temperamental characteristics which are stable over time. Fifteen percent of all newborns are "difficult" babies.

2. Fifteen percent of all elementary school children present problems of learning, behavior or both.

3. Reading disability occurs with all written languages that require sound blending. Syllabic basic Japanese, where a syllable's pronunciation is constant despite what proceeds or follows, does not produce any reading disability. In German and Slavic languages reading disability occurs about half as often as in English. Their children learn to read without special programs by age 10 but remain disabled in spelling, punctuation and capitalization, which eliminates them from most

higher education. The late development of interest in reading disability on the continent may be due to the fact that these children are excluded from all tracts towards higher education by age 10 to 12. Teachers dealing with children headed for the universities would not encounter reading disabled children. In English speaking children with reading problems the biggest progress reading-wise is made between 11 and 13. Why it is later than on the continent is not known.

4. I.Q. distribution in reading disabled children is normal.

5. The lower the socioeconomic status, the higher the rate of reading disability.

Reading disability is associated with (implies no causal relationship):

1. All types of speech and language problems.

2. The belated establishment of cerebral dominance and right-left confusion.

3. Genetics.

4. Overlaps with the hyperkinetic MBD syndrome characterised by short attention span, impulsivity and difficulty in groups. Hyperactivity is not a necessary symptom.

A survey of an elementary school population showed that 80% of the children identified as having either learning or behavioral problems fit into the MBD classification.

MBD in turn is heavily influenced by environmental factors such as structure or disorganization and for this reason may symptomatically come and go through time. MBD is in turn associated with maternal age at time of child's birth, complications of pregnancy and delivery and prematurity. These in turn are associated with socioeconomic status. Recent studies indicated that we can predict 85% of MBD cases from data available during the first year of life.

The prognosis for the MBD child is grave. An unduly high percentage end up in mental hospitals, in prisons, on welfare rolls and amongst the alcoholics.

The short attention span and impulsivity of the MBD child lead to poor performance on almost any kind of test, thus poor test performance seldom proves more than impulsivity and short attention span.

Delinquents as a group are severely academically retarded. It is tempting to speculate that remedial reading programs could prevent delinquency. I read the evidence otherwise. The short attention span and impulsivity which produce learning disability also lead to delinquency. The MBD child who can read is still at high risk for delinquency. A large percentage of criminals in prisons manage to catch up in the academic area without special remedial programs and under most adverse circumstances.

The integrative task of the human nervous system is most complex. The number of discreet brain areas known to participate in reading is large. The number of spots where malfunctioning or damage can interfere is also large. Between the temperamental variability and possible variability of damage compounded by the obvious environmental variability, the likelihood of many cases of reading disability being exactly alike is very small.

Reading disabilities are most commonly the subject of short term studies. With children you must know what the five to ten year outcome is before you can assess the validity of an intervention.

Where does this leave us? A complex, multi-causal problem with possibilities for prevention and many opportunities for the imaginative application of non-specific intervention. Big Brother relationships and other one to one activities, small groups, any success experiences, life enrichment of any kind, all stand a good chance of producing improvement. Remedial techniques are more dependent on the imagination with which they are applied and the enthusiasm of the teacher than on any particular technical details.

Our natural bent makes us want to identify a specific problem which we then can treat. In cases of reading disability this is seldom possible. We must think of changing the overall balance of psychological, social and organic factors impinging on the child's life. Although we may not be able to remove the negative factor, reading disability, we may be able to add enough unrelated positive factors into the child's life situation to change the balance of forces sufficiently to enable the child to cope more successfully with his disability.

Medication, particularly the central nervous system stimulants, will reduce the impulsivity and short attention span in 85% of cases. It often produces dramatic improvement on tests of sound blending. The medications affect the symptoms mentioned regardless of possible cause. They do not cure. As yet we do not even know whether successful drug therapy improves the long range outcome of MBD. There is no evidence such therapy leads to drug abuse. Neither tolerance nor dependence occur. Recent evidence indicates many of these children should continue on medication indefinitely.

Behavior modification is also successful, especially in milder cases. There is some question about the length of time the beneficial effects last. Combinations of drug and behavior therapy appear to produce the best results.

Let us not go the road of so many fads where the client is used to meet the needs of the therapist. Let us not claim to cure or prevent. Let us help children in need and let us stay humble.

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Fact or Fallacy: An Open Line Between Doctor & Teacher

Clement E. Papazian

As a practicing pediatrician who has cared for children with learning problems for many years, I have talked to many parents and teachers repeatedly regarding certain subjects that have caused them some confusion in understanding their own children or students. I would like to share with you a few of the subjects which, in my opinion, have created the greatest areas of confusion.

One of the most common "labels" that creates problems is "brain damage" (with or without the prefix "minimal"). (1, 2) It is extremely important for those in the educational and psychological fields to realize what that term connotes to the physician. In medicine, a diagnosis of brain damage is made in several ways. The most obvious is by the direct examination of the brain by the neurosurgeon. In addition, the diagnosis can be made indirectly by: (a) a neurological examination which reveals gross focal deficits, and (b) by specialized radiological techniques whereby an air outline of the brain or a contrast outline of the cerebral blood vessels reveals abnormal patterns. However, many parents have told me that their youngster has been described as brain damaged after having been examined by the school psychologist. The parents, who then have been advised to make an appointment with their child's physician, have dutifully done so. Their doctor, unaware usually of the psychologist's criteria for making the diagnosis, has gone through his routine neurological examination and found nothing abnormal. He informed the parents that the child was "normal," and when the parents reiterated the psychologist's impression of brain damage, the doctor may have "blown his cool" ever so slightly, and emphatically reaffirmed his impression. At this point, the family has become utterly confused in terms of what, if anything, is the matter with their child. It is critical for all of us, in medicine, education, and psychology, to realize that when the psychologist uses the term "brain damage," he does not necessarily mean the same thing as when those of us in the medical profession use the term. It matters little what terms we use—what matters primarily is that each discipline understands what the other discipline means by the labels it uses.

The second confusing subject soon becomes evident somewhere during the preceding discourse when the parents inform the doctor, "They said he should have a brain wave test." If there is any one diagnostic tool in neurology that is overrated and much abused, it is probably the electroencephalogram (the brain wave test or EEG). Actually, the EEG is of very little diagnostic help in the great majority of cases of children with learning disability.(3) One must realize that the brain wave test is nothing more than a graphic representation of the electrical discharges emanating from the surface nerve cells of the brain. It is quite possible for a great deal of electrical abnormality to be present in the deeper areas of the brain, and not be reflected at all in the surface tracing. Thus, if the EEG is normal, it literally means nothing in terms of being helpful in the overrall treatment plan for the patient. On the other hand, an abnormal tracing alone without supporting clinical evidence really is not very helpful. If, in a child with minimal brain dysfunction (MBD) syndrome(4) for example, the brain wave test does show specific abnormalities consistent with a seizure-type of electrical activity, then it may be helpful in terms of the kind of medication one might consider for that youngster. Although approximately 50% of patients with MBD syndrome have abnormal EEG's, the majority of the abnormalities are nonspecific in nature, and not particularly helpful with respect to treatment.(5) The nonspecifically abnormal tracing tends to strengthen the validity of our MBD diagnosis. However, electroencephalograms are expensive, and whether a child should be subjected to one must be the decision of the physician. If the suggestion is made to the parents by the educator or the psychologist, and the doctor disagrees, then another nagging point of confusion remains in the minds of some parents in terms of should their child really have one or should he not.

At some stage in the overall planning for the youngster with learning disability, the question of drug therapy is usually raised by someone. It is obvious to us all that many parents are extremely sensitive to the term "drugs." The decision as to whether a student might benefit from drug therapy must be the sole responsibility of the physician. Although the use of stimulants for children and preadolescents is an area of confusion to some teachers, most persons in the field of education, and certainly all school psychologists are quite aware of the paradoxical response that many children with "hyperactivity" (hyperkinetic behavior syndrome or multiple other synonymous labels) (4) obtain from these drugs. (6) Before parents are given a prescription for drugs, the indications for such therapy must be thoroughly explained to them. It is the physician's duty to discuss with both parents (at a level that is comprehensible to them) the concept of hyperkinesis and the paradoxical response to stimulants. By doing so, all kinds of well-meaning and often contradictory advice given to the parents by their mothers, mothers-in-law, friends, and neighbors can be kept in the proper perspective. For example, I attempt to interpret the nature of the hyperkinetic behavior syndrome as follows. I emphasize that the youngster's intelligence is at least normal, and that the cause of his problem is not primarily emotional. The maturational nature of a child's ability to tune out stimuli "that he should not want to pay attention to" is then discussed. I explain that, for reasons not really known completely, certain children's ability to tune out extraneous stimuli seems to lag compared to the rest of their neurologic and/or physical development. Thus, a six or seven-year-old child who has this maturational lag or inability literally cannot pay attention to any one thing for the expected period of time. And for a parent or teacher to expect the normal degree of concentration is totally unrealistic and unfair. I then explain that certain drugs seem to "stimulate" that particular function of the nervous system to work more efficiently. (7) The drugs of choice are the stimulants, Dexedrine and Ritalin. (8)

When the word "Dexedrine" is heard, another red signal lights up in the parents' mind. I reassure them that if the proper psychological approach is taken toward the use of Dexedrine, or any of the other stimulants, there is no evidence of a youngster getting "hooked" as he goes into adolescence or young adulthood. (9) Parents must understand that in dealing with a child on drug therapy the underlying principle must be that the individual will always be responsible for his own actions, good or bad, and that the medication he uses is merely an adjunct—but not a crutch. I believe this is a critical point that must be emphasized over and over again to parents, and also to teachers. Often I have parents tell me that their child uses the excuse that the reason he got into trouble on a particular day was because he forgot to take his medicine. This kind of response should not be tolerated. An analogous situation may occur when a father coming home from a difficult day at work is confronted by his child's hyperactive antics because his medication effect may have worn off. The father may then burst forth with a resounding, "Give that kid his pill so he'll shut up." If the preceding or similar situations recur frequently, it is obvious the kind of a concept a youngster will develop in terms of himself and his medication. Therefore, it is essential for parents and educators to realize that when a child is placed on medication, the little bottle of pills does not represent some magical formula that is going to transform him into a model member of society. To insure the development of a healthy self-concept, parents, teachers, and the physician have to coordinate their efforts to insure an adequate amount of success experiences for the child.

Another issue that creates problems at times is the necessity for titrating medication dosage. It is imperative for the physician to get valid feedback regarding his patient's response to drugs from the teacher as well as the parents. It is on the basis of these comments that he decides whether there is a need to increase or decrease the dosage, or whether a change in medication is indicated. It is not the teacher's responsibility to decide whether the student needs more or less medication, but rather to share with the physician her accurate observations. When this demarcation of responsibility is not adhered to, and educators make statements to parents regarding medication dosage or frequency, doubt and confusion can be instilled in the minds of some parents regarding drug therapy.

Another facet of drug therapy that often needs elucidation to both parents and teachers is the usual need to increase the dosage of drugs to maintain an initial positive response. There has been some recent evidence in the medical literature to show that youngsters with good paradoxical responses to Dexedrine excrete larger amounts of the drug in their urine than do other groups of children. (10) The need for larger doses of medication in some students as time goes on may be related to this kind of excretory reaction; however, the relationship is still not completely clear. Parents are also informed that most children around the time of puberty can be taken off medication completely and maintain hyperactivity control. I have personally followed many hundreds of youngsters on drug therapy for hyperkinesis, many of whom have been weaned off their medicine. There has never been any problem with addiction.

Another point that should be briefly emphasized is the need for privacy when drugs are to be administered at school.

The dignity of the child and the confidential nature of the treatment program must always be maintained.

Finally, I would like briefly to discuss the problem of the student with specific reading disability (developmental dyslexia) (11) who reaches high school level. I believe it is fair to say that there is no panacea for the solution of this youngster's reading (and spelling) problem. Therefore, many of these students have significant reading and spelling disability when they enter high school. At some point (and I am in no way assuming the responsibility of stating when that should be since the decision is an educational one), the school should de-emphasize "remedialization" and start emphasizing "vocationalization." The student's program should switch from emphasizing his deficiencies to carefully and completely developing and evaluating his vocational aptitudes. I find it difficult to believe, but after repeatedly listening to the frustrating remarks of reading disabled high school students, it appears that some teachers still seem to have tunnel vision with respect to methods of learning. We are not all "reading and writing" individuals. Many of our dyslexic students learn most efficiently via the auditory-vocal circuit; yet many teachers seem so rigid in their class routine that they do not allow these youngsters the benefit of tape recorders and/or oral examinations. Every teacher must be made aware of the presence of these "auditory-vocal" students as they enter new classes in order to minimize ego depreciating experiences.

Space does not permit discussing other problem issues. However, it is my opinion that the underlying theme in the preceding discussion is the continuing need to maintain truly open lines of interdisciplinary communication. Not doing so merely increases the psychological burden of the learning disabled student.

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Research in Learning Disabilities

Leon Oettinger, Jr.
Lawrence Majovski

Medicine, psychology, and education have been somewhat uneasy bed-fellows for a number of years. However, there is now increasing cooperation between these groups expressed both through cross-discipline research and theoretical speculation. As a consequence, many medical schools and hospitals have established learning disability or hyperactive behavior syndrome clinics, and developmental pediatrics is one of the "hottest" areas for study and investigation in medicine.

One area of cooperation which has been fruitful is that involving studies of brain dominance as it relates to processing of signs and symbols. Neurosurgeons, neurologists, pediatricians, psychologists, and others have contributed to these experiments.

Many split brain preparations have been done by Roger Sperry and his colleagues at the California Institute of Technology. These have shown that separating the two halves of the brain interferes with certain types of learning and behavior. Such studies have been augmented by others involving humans. These operations, done because of intractable seizures, allow study of the difference in function between the hemispheres of the brain. Bogen and his co-workers found that language functions took place primarily on the left side of the brain, while spatial processing was primarily a right hemisphere function.(1) They have also concluded that "gestalt-synthetic" activity occurs on the right, and "logical analytic" specialization is on the left. Bogen and Gordon(2) also did experiments in which a sedative was injected into the carotid artery, thus inactivating brain function for a short period of time. When this was done on the right hemisphere, musical ability was more impaired than was language, even though a paralysis of the left side of the body occurred.

The studies have been extended by others, who have emphasized the specialization of the hemispheres, particularly the language localization on the left and the spatial organizations of function on the right.(3)

The relation of these studies to education is immediate and important. If symbols are carried on one side of the brain and geometric shapes or signs on the other, and if communication between the two sides is poor, then it would seem that teaching signs would have little effect on symbol use. The Frostig teaching materials are primarly concerned with signs, and their value would thus be thrown in doubt. Recent research supports this assumption, and states that Frostig material training and others like it have little direct value in improving reading. (4)

Similar negative results have been published in regard to the type of perceptual motor training advocated by Kephart and others. (5) These findings would also suggest that attempts to fragment the alphabet and teach children to recognize different curves and strokes, as proposed by Guralnick (6) for prereading, would be of less value than he predicts.

Koppitz (7) has asserted that the Bender Motor Gestalt diagnoses brain dysfunction only, and that it can be used to predict reading problems only when these arise from visual motor perceptual defects. It should also be noted that in controlled studies, inactivation of the right hemisphere impairs the Bender but not language while impairment on the left impairs language but not the Bender. Recognition and utilization of these differences is being attempted in at least one English study where automated techniques are being used. (8)

Classification of the varieties of learning disabilities has been attempted by Elena Boder (9) and others. A recent addition to this corpus of work is that of Denckla, (10) who proposed that at least three sub-groups could be separated from the general learning disability groups: 1. Specific language disability. These children usually give a family history of reading problems, do not name symbols well, do not copy well, but otherwise seem well adjusted. These represented fifteen percent of the group studied. 2. Specific visuo-spatial defects (Gerstmann Syndrome). These children usually have social-emotional adjustment problems, are confused as to right and left, have a poor body image and dysgraphia. Five percent fell in this group. 3. Dyscontrol Syndrome. These children have poor impulse control, poor muscle control, and were described as sweet, silly, and sloppy. They represent ten percent of the group. Denckla further explained that *all* of these children were neurologically impaired.

Reading is the process of generating a coherent message from patterns of marks on a page. Dyslexic children seem to have problems that involve more than simple visual perceptual defects or a general inadequacy in handling language. They make no special mistakes, but simply more of every kind than are usual in normal readers. (11)

According to a recent paper, the statement that a child is "immature" is one of the most common found in letters of referral for children with learning disorders or minimal brain dysfunction. No verification of this statement appears in the literature, however, and methods for evaluating the concept of "immaturity " have not been presented.

One method of bearing on the problem of determining maturity is that of assessing bone age. This test, in which X-rays are taken of the bones of the hand, wrist, and arm, and the degree of ossification compared to those found in standard charts, is a common medical test. When bone age is tested, it can be compared with the chronological age of the child. From such data a measure of physiological immaturity/maturity can be made. Oettinger and Majovski(12) have investigated this phenomenon in fifty children who have had thorough evaluation for minimal brain dysfunction. A statistically significant number of the children studied *do* have retarded bone ages, and a discrepancy of one to two years is not unusual. This immaturity has not been related to thyroid function, however, since none of the children studied had low thyroid values as measured by the T_4 test. This is of particular interest here at Claremont, since Florence Mateer, a member of the faculty of the Claremont Colleges a number of years ago noted the low bone age of children with reading problems; unfortunately she ascribed it to low thyroid function. It was not an obvious error. In her time, sensitive yet reliable methods for the study of thyroid function had not been developed.

From a practical standpoint, a measure of physiological age may be one method by which it could be decided whether or not to retain a child in kindergarten or first grade. A physiologically immature child would be expected to profit more from retention than would a child with normal bone age. Proof of this assumption would be a valuable aid to schools in programming for children with learning or behavior disorders.

The use of drugs in the stabilizing of children continues to be controversial. Much of the discord seems to arise from different perceptions as to how the drugs affect their changes. It is the belief of the authors that the prime function of drugs is to improve functioning of the brain, and that with improved function there is improved behavior and learning. The drugs are not seen as restrictive agents, which act by inhibiting the "normal" personality of the child and which act as "chemical strait jackets." In double blind controlled studies amphetamines have been shown to enhance performance, decrease reaction time, and increase motor steadiness and vigilance.(13) They also increase visual discrimination, particularly under stress,(14) improve auditory synthesis and improved performance on the Porteous Maze.(15)

Methylphenidate (Ritalin®) now seems to be the drug of choice for most practitioners and in most clinics, and its actions are similar to those of the amphetamines. (16) (17) (18) Differences do exist, however, between the activities of methylphenidate and amphetamine(19) and between levo and dextro amphetamine.(20)

Imipramine has also been used for stabilization of the hyperkinetic behavior syndrome by Huessey, Wright,(21) and others, and has been found to be of marked benefit. Side effects were found to be minimal, and this drug has an advantage over methylphenidate in that it can be given once a day. Imipramine is also valuable in treating nocturnal enuresis. It should be noted in passing that any drug which does not have to be given at school has a basic advantage for the patient and the school. The need to give methylphenidate every four to five hours, and to give it fifteen to thirty minutes before meals is the major disadvantage of this drug.

Phenothiazines have been used in children with minimal brain dysfunction, including thioridazine(22) and chlorpromazine(23) and have proven to be effective. At times they will be useful when the "stimulant drugs" are not, and they may also be used in conjunction with the stimulant drugs.

Hydroxine, one of the drugs most commonly prescribed by many physicians for minimal brain dysfunction, was found to be inferior in its action to both chlorpromazine and dextroamphetamine, and to have no advantage over placebo.(24)

"Drugs do not work after the child is in his teens" is a frequent statement made by physicians and psychologists. There is no evidence for this comment in the literature, and at least one paper has been published citing a case in which an adult responded well to an amphetamine.(25) One of the authors (L.O.) has recently reviewed his own practice, and found that one-third of his patients had been on medication for more than five years, and that more than fifty percent of these were fourteen years of age or older.(18) Adler(26) and Carpenter(27) have also reported publicly that they have many adult patients under treatment successfully, but unfortunately these observations have not been published. Ayd, however, did report on fifty patients who had taken methylphenidate in conjunction with a phenothiazine tranquilizer for periods of twenty-nine to fifty-four months.(28) All of these were adults. It was found to be useful in overcoming anxiety, and also in counteractivating the drowsiness caused by the phenothiazines. No toxic effects were observed under this long period of administration.

Habituation and addiction are feared results of the use of stimulant drugs, yet it is the general consensus of those involved that they have never had this problem in children who have been adequately followed.(18)

The cause of the hyperkinetic behavior syndrome seems to be elusive. Most investigators feel that there are multiple causes, including: (a) organic brain damage; (b) genetic transmission as a probable polygenetic abnormality, and extreme placement on the normal distribution curve, intrauterine "random" variation in biological development, fetal maldevelopment, or psychogenetic determinants (deviant psychological experiences).(29) One recent publication has identified lead as one of the probable causes(30), and several papers have confirmed this observation of increased blood levels in children with minimal brain dysfunction.(31) (32)

Research in this area is continuing. However the methodology is difficult, and harrassment from the federal government, news media, and well-intentioned but ill-informed persons produces major difficulties. At least one drug which has proven to be of value in preliminary experiments is not yet on the market due to a combination of these problems. Magnesium Pemoline was found to offer an alternate to amphetamine therapy by Connors, et. al.,(24) and it is hoped that it will be available at some future time.

There are two items which probably should not be included in research on learning disabilities, but which have been of great concern to one of the authors (L.O.) for many years. One of these is the failure of teachers and parents to distinguish between reading and reading aloud. Reading aloud, one of the usual "teaching" methods, is basically the conversion of visual symbols into verbal symbols, and does not imply cognition. Many of the readers will have experienced the situation in which so much emphasis was put on clarity of enunciation, timing and "feeling" that they had no idea of what they were reading. Reading can be narrowly defined as the conversion of printed or written symbols of cognitive symbols or internal language. Comprehension is the prime requisite, and is basically the only reason for setting symbols to paper. Reading aloud interferes with reading, and should be used very sparingly. Professor Douglass' keynote address today emphasizes the problems with routine "teaching of reading."(33) This is one area in which it would be easy to make improvement.

The second item is the difference between writing and drawing. Often a teacher will say to a boy, usually about fourth grade level, that his writing is so poor she cannot decipher it. The child is then asked to write something as best he can, and he carefully and painfully enscribes the graphomotor symbols. The teacher then congratulates him and says, "See, you can write well if you try." Writing is the conversion of internal language to graphomotor symbols at the subconscious level. Drawing is the conscious conversion of internal language into graphomotor symbols. Writing usually implies that the writer is primarily concerned with the cognitive content of the message, while drawing implies that the primary concern is the shape and size of the symbols without major concern for the content. These two items may seem minor; however, many children have had major psychological harm done them by the demand that they write as fluently as they speak before they have mastered this subconscious conversion of internal language to written symbols.

One area in which there is little research but much discussion is that of early education. It is felt by the authors that early education at a level which does not produce failure in the child is probably of value. However, we fear that early education is probably going to be interpreted as early attempts to formally educate children with an emphasis on reading, and not on pre-reading skills such as talking and listening. Professor Douglass has referred to the European practice of not introducing formal reading until the children are seven or over, and compared their low incidence of reading disorders with the high incidence found in the United States.(33) Until well-controlled studies in which the children are given formal reading instruction at various ages, and are then followed for at least four or five years are available, early teaching should be highly suspect, and not expected to be a panacea for cultural deprivation, dyslexia, and dislike of reading.

To adequately report on research in learning disabilities would be an endless task, since the research is carried on at a rate greater than one person could report if he talked continuously. The subjects chosen here have obviously been ones expressing the biases and interests of the authors and have left unreported many studies of equal or greater importance.

This type of review by non-educators, however, does help to build bridges of communication between the disciplines, and this we hope will prove of benefit to children in general.

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Can Reading Problems Be Predicted?

Herold Lillywhite

When we ask the question, can reading problems be predicted, we should be prepared for a long, complicated, and maybe inconclusive answer. If this question could be answered simply in the affirmative or negative, there would be no point in wasting time on this discussion. But all the answers we have are qualified ones. It may be that we have accepted a negative answer for most situations and most ages because we have not had the personnel, the tools, the information and the underlying research necessary to allow us to make predictions much more frequently and accurately than we have done.

I would like to suggest that reading problems may be much more predictable and at much earlier ages than we have thought possible up to this time. I am not talking about absolute prediction at any age; because at this stage we do not have tools and information to make this possible. Nevertheless, we can — and should — work toward more definite, positive predictability than we now have.

What I believe is possible for us to do at this stage of our knowledge is to establish what is known in medicine and some other disciplines as a "high-risk category" for reading and other language disorders. Pediatricians for many years have accepted the concept of high-risk categories for a number of developmental disorders. Audiologists and Speech Pathologists have also learned to look very closely at a child's prenatal, perinatal, and postnatal development for clues to possible speech, language, or hearing problems. A high-risk list has been established and has become extremely useful in the prediction of hearing loss. We also can list a number of factors which will enable us to predict that a child is going to have articulation problems, voice problems, or oral language problems.

In a recent publication entitled *Screening and Assessment of Young Children at Developmental Risk*(1) the concept of high-risk was described as follows:

> A high-risk register, regardless of the diseases it is intended to help detect, is basically a list of factors that may contribute to, or be associated with, a given handicap; and an individual who carries one or more of these risk factors is said to be 'at risk' for

> having the disorder, or for developing it ultimately. Generally such a register is applied to maladies not evident on mere physical examination of the infant. In most instances the risk is at least sixteen times greater in the high-risk group than in the population at large.

Whether the high-risk register as such is feasible for reading disorders is open to question, because there are many problems. The high-risk concept, however, appears to be one that those of us interested in any of the language skills should pay a great deal of attention to. The systematizing, organizing, and listing of those conditions and factors which appear frequently enough and strongly enough in infants and children to suggest the strong likelihood of reading disorders later on would be a great step forward, and would enable us to approach school learning problems in a much more systematic manner, and perhaps more from a preventive than a remedial viewpoint.

There is considerable evidence accumulating that reading disorders can be predicted. In our center, Speech Pathologists and Audiologists, working in conjunction with Pediatricians, Neurologists, Psychologists, Social Workers, Occupational Therapists and Physical Therapists, have learned to predict with considerable accuracy probable learning disorders. The nature of the learning disorder is not so easily delineated, but usually we can be fairly certain that reading will be involved.

In January, 1972 the American Academy of Pediatrics(2) published this statement: "The precursors of learning disabilities can often be detected by three years of age." An article in the December, 1972 *Journal of Learning Disabilities*(3) states: "A limited number of longitudinal studies have indicated that children with reading problems can be identified during the preschool years." In 1966 Katrina de Hirsch, et al.(4) published a battery of tests which has been widely used to predict reading problems. In October, 1969 Joyce Jones(5) published an excellent article listing twenty-three items which might help identify future reading problems, and describing a battery of tests which she felt would determine these.

As an approach to identification of risk factors, we need to understand something of the nature of the process of learning to read; but back of that we need an understanding of the interrelationships of all language skills. The following statement from the *Pediatrician's Handbook of Communication Disorders*(6) states this relationship quite clearly:

> The close relationship between oral and written communication skills should be fairly obvious when it is realized that the basic skill in reading is that of transforming visual symbols to auditory symbols; that is, the decoding of the written symbol to its speech sound. Even though the process of oral production may not be involved at all, the act of reading still is one of decoding the visual symbol to an already acquired verbal one. We think with words which we have learned through the auditory channels rather than through the visual, at least in the beginning.

Hildreth (7) writes: "Speech and reading are intimately related, for reading is a form of language expression. Normally a child's first reading experiences are oral, and even in silent reading the persistence of inner speech suggests the close connection between reading and oral language. The child's command of speech largely controls his initial success, as well as his ultimate development, in reading."

If the above is true, then one of the most important places to look for possible clues to later reading difficulty is at the child's development of oral speech and language skills. Some very respectable research (8) has fairly well established that speech, at least in part, is biologically determined; that is, that there is something innate in the human animal which allows him to hear, listen, practice, and learn the rules of speech and grammar of his particular language—most of the time without any formal instruction whatever. The difference between reading and speaking is that reading is an entirely learned function with apparently no biological determinants whatever. From this standpoint, then, speaking is a primary language skill; but reading is a secondary, entirely learned skill, and therefore more difficult and more vulnerable to interfering factors.

The development of oral speech and language is quite predictable, and can be measured beginning as early as age 3 months and extending up through 8 years. It is not quite as easy to chart the developmental sequences leading to reading and writing skills. This is true for several reasons: 1) Not as much research has been done in this area, 2) Reading and writing skills are later language skills in the child's development and are more subject to external influences, 3) At least the beginning skills for reading and writing must be developed rather quickly once the child enters school. In spite of these facts, however, close observation of the child's developing oral language skills will give us much information as to whether or not we should expect trouble with his acquiring written language skills.

In order for speech and language to develop the child must have a relatively intact auditory mechanism. His hearing acuity must be adequate, but in addition to hearing acuity the neuro-connections necessary for the development of discrimination of sound must be present. There is inadequate evidence as to exactly what the nature of discrimination deficiency is; but it is known to be present in a fairly large number of children with normal intelligence. It is likely that this difficulty in auditory discrimination is related to over-all dysfunction and delay in the maturation of neuro-activity in the child. The requisites for the development of reading and writing, then, in addition to those for oral skills must include short-term memory, linguistic awareness, visual acuity and visual perceptual facility, and a mental abstraction ability beyond that required for decoding and encoding oral language.

There are many conditions which can cause disruption of the normal developmental processes leading to adequate speech and language skills. Such conditions as prenatal or birth abnormalities, serious illnesses, long hospitalizations, long mother-child separation, and specific anomalies such as hearing impairment, neurological dysfunction, mental retardation, slow motor and physical development, infantile autism, environmental deprivation, child abuse, severe emotional trauma, and a sterile language environment all should be looked at carefully as possible predictors of oral and written speech and language problems. There are many more subtle conditions, however, that are equally significant, and yet are much more difficult to identify, assess, and make predictions from. Many of these relate to disruptions of speech and language development and ultimately to reading problems.

A few years ago a member of my staff did a study of 804 children, ages 5 through 12, testing their ability in verbal sequencing tasks—the ability to sequence 1, 2, and 3 syllables accurately in nonsense syllables and words. He was looking for a relationship between deficient sequencing ability and articulation problems, and he found the relationship to be very close. This was to be expected, but what was not expected was that there seemed to be almost as high a correlation between deficiency in verbal sequencing and reading problems. He now has a Master's student(9) doing his experimental thesis on this problem. The student's prospectus states: "Due to the relationships between speaking and reading discussed in the introduction, if a child has difficulty with verbal sequencing he may also experience difficulty in ordering units of symbols needed for effective reading. Should verbal sequencing ability prove to be a predictor of reading ability and general academic functioning, Blakeley's test could be used to identify a high risk population upon entering school."

For approximately 10 years Dr. John Isom, Pediatric Neurologist at the University of Oregon Medical School, has been doing research in reading on children in our Collaborative Child Study Project. He recently reported that there is a .5 correlation between children failing the 3 year articulation test and later reading problems in school. He has followed over 1,000 children from age 3 to sixth grade.

The very excellent new book, *Language by Ear and by Eye, the Relationships Between Speech and Reading* (10), presents overwhelming evidence from many researchers that reading skills stem from and depend upon speech and language skills. One statement by Mattingly (11) sums this up as follows: "Our view is that reading is a language-based skill like pig Latin or versification and not a primary linguistic activity analogous to listening."

At the Crippled Children's Division of the University of Oregon Medical School we have, for many years, offered extensive diagnosis and treatment of children of all ages from birth to 21. Almost all of our diagnostic work is done in teams, including in each team from 3 to 8 different specialists from as many different specialties. Over the years of team diagnosis we have learned to identify and assess, with some accuracy, many of the subtle problems that have enabled us to predict various kinds of problems as the child develops. Among these are problems in speech, language, reading, and writing skills.

In order to try to establish a group of symptoms that can be identified prior to the time the trouble sets in, let us see if we can be more specific. In one of the very best recent studies of reading problems that I have seen, Edith Klasen (12) in her book *The Syndrome of Specific Dyslexia*, published only last year, makes a detailed analysis of characteristics most prominent in 500 children with specific dyslexia. Many of these characteristics we find are those which could be identified early, and some alleviated or prevented. In a summary statement Klasen says: "Statistical analysis of the group showed that physiological signs, among them especially neurological dysfunction, visual, perceptual, and motoric deficiencies, in-adequately developed dominance, speech impediments, delay in language development, and hyperactivity were most often present." These problems were found with greater frequency among boys than girls. They also occurred more frequently among prematurely born children, or among those who had history of complicated birth, physical trauma, or illness. In those who showed signs of neurological involvement it was found that other family members also frequently had related symptoms. Wechsler test examinations showed significant deficiencies in arithmetical problem solving, coding, and immediate recall of digits. She points out that the more obviously brain injured also show deficiencies in these particular subtests strengthening the hypothesis that neurological disorders play a primary and frequent part in reading disorders. Another set of symptoms included concentration problems, immaturity, low frustration threshold, or withdrawal.

In the 1970 publication *Pediatrician's Handbook of Communication Disorders*(13) is a suggested list of symptoms which the Pediatrician might be able to identify in 4, 5, and 6 year old children.

1. A history of speech and language problems in the family, especially in reading.
2. Behavior involving a marked hyperactivity and a very short attention span.
3. Evidence of autistic or schizophrenic behavior.
4. Seeming mental subnormality.
5. Noticeably poor orientation in space and time.
6. Obvious eye pathology or visual defects.
7. Obvious negative environmental conditions.
8. Extremely negative or fearful attitudes toward adults.
9. Obviously short auditory memory span as indicated by inability to repeat a series of three, four, or five digits or nonsense syllables.
10. A low verbal score and high performance score on an intelligence test, if one has been given (a spread of 20 points or more).
11. Obviously distorted patterns on the Bender-Gestalt test.
12. Inability to imitate movements of another person sitting beside him looking into a mirror. This may show directional disorientation.

In Joyce Jone's article(14) previously mentioned, she includes many of the symptoms listed above. In addition, however, her list includes:

1. Spotty performance on I.Q. tests; achievement high in some areas, low in others.
2. Below mental age on tests of drawing a person.
3. Impaired reproduction of rhythmic patterns.
4. Impaired reproduction of tonal patterns.
5. Impaired auditory discrimination.

As we look at the wide variety and the numerous possible symptoms which suggest reading disability, we must stress that no child may be expected to display many of these symptoms; and children are so individually different that it is risky to group them into what might be called a reading problem syndrome. What we actually are looking for then is a cluster of symptoms around an individual child which will make him suspect for future reading problems, and hopefully lead to further study, follow-up, and action as necessary.

What would we need in order to identify and take action on the child with a high risk reading problem potential? If the schools are to know that a child is "at risk" for reading difficulty at the time he enters, obviously someone other than school personnel must be involved in identifying the child. A clinic providing team evaluation is an ideal situation, but there is one problem with it. Only the children with obvious and usually quite severe problems are referred to it. Many of the symptoms listed above are not obvious, and frequently cannot be discovered without careful examination. Some of these symptoms are observed frequently by parents and physicians; but little attention is paid to them, except for attempts at immediate alleviation. This means that somehow we must bring about a much greater awareness of the symptoms under discussion, first among parents and next among physicians—primarily pediatricians, general practitioners, and ophthalmologists—and then among other professionals such as psychologists, speech pathologists, nurses, social workers, and nursery, kindergarten and first grade teachers. All of these specialists are trained primarily to deal with the immediate problems of children, and they are justifiably reluctant to predict the future. Even when they feel confident in predicting a potential learning problem, how can they get the information to the school where it is needed? We do not yet have a mechanism for this.

Perhaps we are reaching for the moon; talking about the ideal with little hope of attaining it, but progress has been made in developing awareness and skills in recognizing some of the more basic health problems, and this has been done primarily by mounting educational campaigns of one sort or another. Why shouldn't we do it in the area of reading and other learning disabilities? I recently attended a conference in Boston which was sponsored by the President's Committee on Mental Retardation. About eighty professionals and some lay persons, including parents, spent three days at the conference discussing "Screening and Assessment of Young Children at Developmental Risk." We were charged with attempting to come up with some plan for massive screening and assessment of all children at various age levels from birth to five years. The conference concluded that such a project is not only possible, but highly desirable and urgent. Future conferences were recommended, and some specific implementing measures were evolved.

At the American Public Health Association Centennial Meeting in November 1972, a great deal of attention was directed also to the concept of "high risk" children. One speaker, Dr. Eleanor Pavenstedt(15) told the Conference: "I want to make a strong plea for special attention and assistance to the large group of 'high risk' children in our society . . . our own past experiences led us to the conclusion that intervention, to be effective, must begin in the first three years. . . ."

When we look at these kinds of developments on a national scale with probable federal funding, we see the significance, and possibility for a "high risk register" for potential reading problem. At the same time we see that a mechanism would have to be developed that would enable us not only to identify the symptoms we have discussed; but also to make more definitive assessments and recommendations for implementing treatment or preventive measures, as well as getting the information to school ahead of the child.

To come back to the original question in this paper, can reading problems be predicted; we can at this time say yes, sometimes, much more frequently than they now are. But the exciting answer to this question is what the future holds. If we could develop the mechanism, the will, and the trained personnel how much more positive we could be in an affirmative answer to this question.

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Some Relationships Between Hearing Loss and Reading Problems

Jacqueline Keaster

The results of combined studies over a period of many years have tended to indicate that approximately 4.5% of children of school age have some impairment in hearing. A large proportion of those children will have mild problems that are reversible with medical treatment; another group will have moderate problems, some of which are not reversible and still others, perhaps one in about a thousand, will have so severe a loss that they will require special education designed for aurally handicapped children. (1)

Testing Hearing

In order to lay the groundwork, it is important to understand how hearing is tested. An instrument known as a pure tone or discrete frequency audiometer is used for basic testing of adults and children over the age of about three. It produces tones from 250 (cps) Hz to 8,000 (cps) Hz at controlled intensities from below audibility to a sound as loud as a factory whistle. Earphones attached to the audiometer are placed on the ears of the person being tested. He responds in some way agreed upon by him and the tester whenever he hears the sound. His responses are recorded on a blank known as an audiogram. By comparing the test results on any child with the accepted norm, it can easily be determined how much more intense each sound must be for him to hear it than for the normal ear. Obviously some children respond more reliably to such a test than do others. It is always, therefore, wise to use some sort of validating measure to verify test results. Fig. 1 illustrates a normal audiogram.

A child as young as 5 or 6 with relatively normal verbal ability can be further tested with a set of pictured spondees i.e. two-syllable words with equal stress on each syllable such as popcorn, cowboy, ice cream, airplane, sandwich, etc. If the point at which he hears these words is roughly comparable to the average of his responses at 500, 1000 and 2000 (cps) Hz, it is an indication that the test results are valid. This is recorded as his SRT or Speech Reception Threshold.

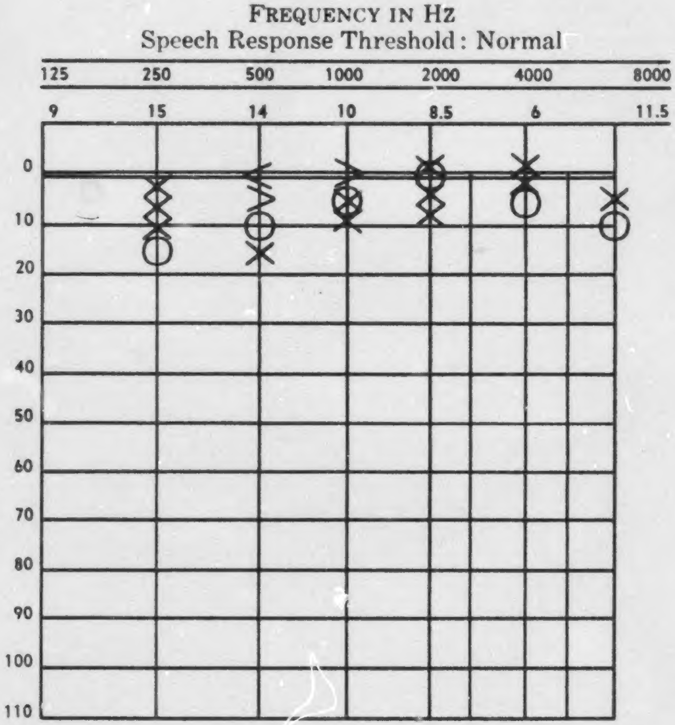

Fig. 1 — An example of a normal audiogram
— right ear
— left ear

The Extent and Type of Hearing Impairment

Hearing impairments vary in extent and in type. Speaking only in terms of extent children with hearing losses might be divided into 3 groups:

Group I	Children with mild losses of up to 20dB below the normal level.
Group II	Children whose losses are moderate in severity (as much as 40dB below normal levels.)
Group III	Children whose losses are severe (60dB or more below normal.)

The child whose hearing loss falls in the first group may easily go unnoticed in the regular classroom. He might occasionally ask to have a direction repeated but probably not often enough to attract attention. It is because of children in this group, particularly, that routine hearing tests should be done in every school at regular intervals. Medical treatment for the improvement of hearing in such cases is more effective than with chronic or severe problems. Early detection and treatment may prevent a child in Group I from joining the ranks of Group II or III. (2)

When an abnormal condition exists in either the external or middle ear a conductive type hearing loss sometimes results. A typical conductive problem tends to reduce all tones or sounds a relatively equal amount. A person with a conduc-

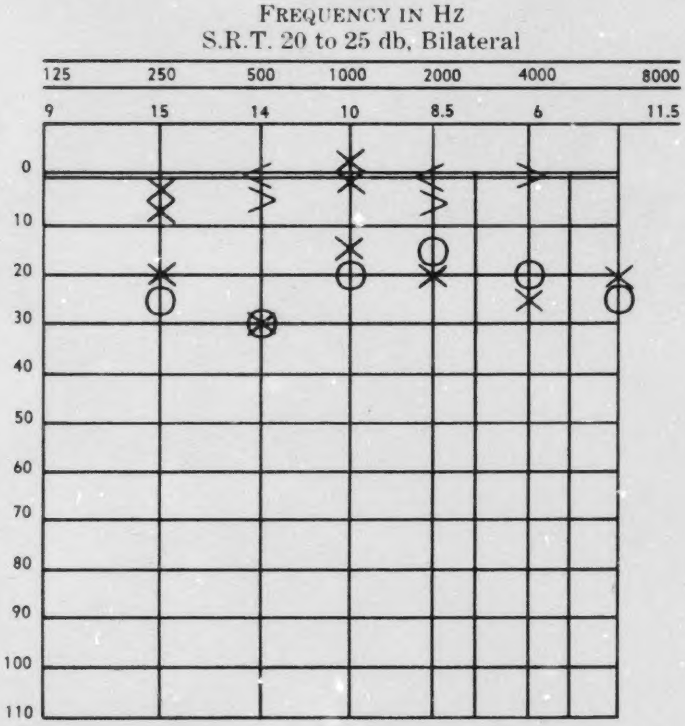

Fig. 2 — An example of a mild, conductive loss, bilateral.
O < — *right ear*
X > — *left ear*

tive loss of any consequence tends to hear speech as though he were in the other room with the door closed. Fig. 2 illustrates a loss of this type. Such a problem in children may result from an acute infection and be of relatively short duration. Such a condition is usually reversible with medical treatment and rarely causes a problem in communication.

Another type of loss is that caused by damage to the end organ or to the nerve of hearing. This type is known as a sensori-neural loss. Such a problem is sometimes congenital or may be due to disease or injury. It is a loss that is usually not reversible through medical or surgical treatment. A child

FREQUENCY IN Hz
S.R.T. 10-15 db, bilateral

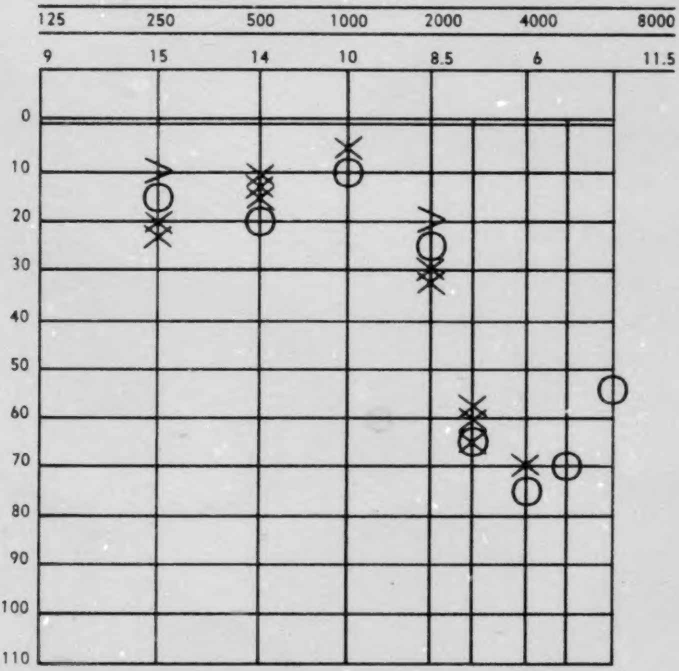

Fig. 3 — An example of a high frequency sensori-neural loss

> O — *right ear*
< X — *left ear*

with a sensori-neural loss sometimes hears low sounds at a relatively normal level but may not hear high sounds until they reach a very loud level. Fig. 3 illustrates this type problem.

Such children typically hear speech better than they understand it unless they are able to see the face of the speaker. They frequently get themselves into trouble because of failure to follow directions because of a misinterpretation of what was said.

Another child with a sensori-neural problem may have a relatively flat loss and require increased intensity through the spectrum. If such a loss has existed from birth he may

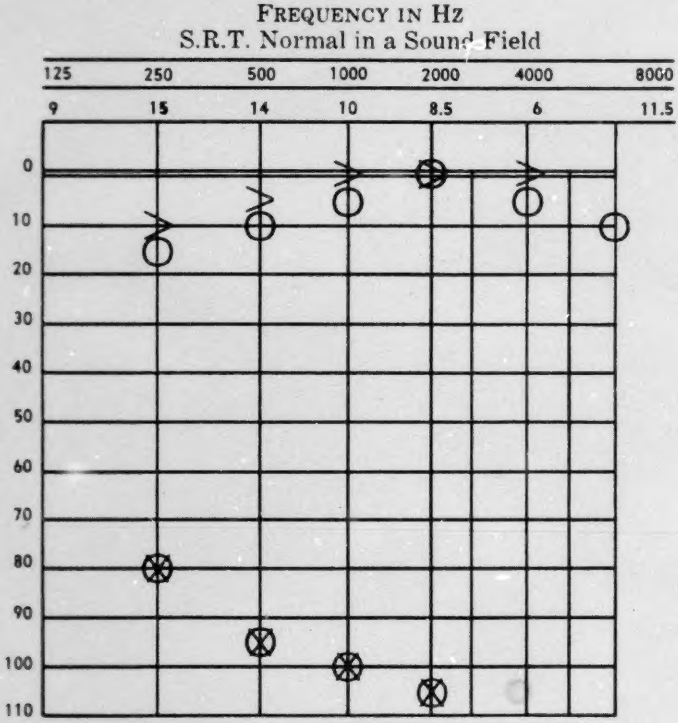

Fig. 4 — An example of a unilateral loss
O — Responses in left ear with masking right

have unevenly developed speech and language with subtle but consistent errors in articulation.

Sensori-neural hearing losses may be so severe that children with such problems require special education from infancy in order to learn to communicate verbally. Such children are rarely if ever found in a regular classroom.

Once in a while a child is seen who has normal hearing in one ear and to all intents and purposes a total loss in the other. His speech reception threshold in a sound field is within the normal range which is tacit to saying that he is able to hear at the level of the better ear. If he has a problem in verbal communication, it will be due to factors other than hearing loss. Fig. 4 illustrates a unilateral loss.

The Effects of Hearing Loss on Language Development

By the time a child is 5, assuming that he has normal hearing, that he lives in a home situation where there is a normal amount of verbal stimulation and is normal developmentally, he can be expected to have a vocabulary of several thousand words. A child of the same age with more than a minimal amount of hearing loss that has existed over a period of time can be expected to have a markedly reduced vocabulary level even if special measures have been taken to reduce the gap. He will ordinarily show his greatest deficiency in those areas of vocabulary development that a child learns by just being around, playing with his peers, inter-acting with his family and friends.

When an otherwise capable child is having an inordinate amount of difficulty in distinguishing differences between phonetic elements or does not really understand the meaning of what he is reading even though he may be "calling" the words quite accurately, it is time that someone, perhaps the school nurse, discusses the possibility of a hearing loss with his family and, with their consent, checks it with an audiometer. In the event that she does find that his hearing deviates from normal he should be seen as soon as possible by an ear, nose and throat specialist. Perhaps the hearing loss is on a middle ear basis and is medically reversible. If not, perhaps some other measures can be taken that will be effective in ameliorating the problem.

A few days ago a little girl of 7 was referred to a Hearing Clinic by an otologist who was interested in a comprehensive evaluation of her hearing. She had been tested at school, a loss had been found; she had been referred to him. She was a pretty child, the youngest in a family with four children who lived in one of the more affluent areas of the city. She had been having problems in school especially in phonics—such sounds as t's and k's sounded alike as did d's and g's. Before discussing the possibility of her repeating the grade, the school nurse tested her hearing and found that she did not pass the screening test at any frequency. She had never had an ear infection; the otologist found nothing abnormal about her ears to account for the hearing loss. The test indicated an SRT of about 35dB in either ear with a moderate bilateral sensori-neural loss. (See Fig. 5) Her mother reported that she frequently needed to have the meaning of simple words explained which had been puzzling because she frequently

FREQUENCY IN HZ
S.R.T. 35 to 40 db, Bilateral

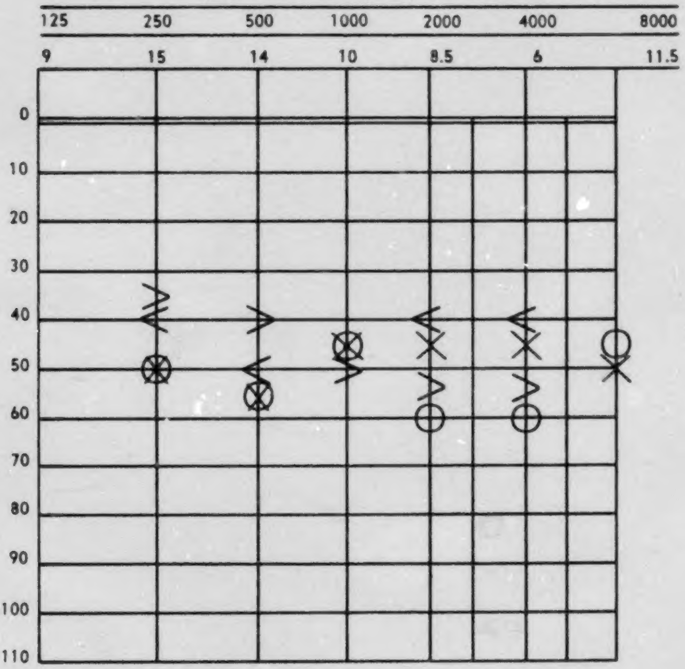

Fig. 5 — Audiogram of 7-year old girl with a reading problem.

knew the meaning of more complicated poly-syllabic words. (This is a typical finding with normally intelligent hard of hearing children. They tend to miss the language that is picked up in such situations as in play with peers or at the family dinner table.) As far as we could tell this child had a moderately severe sensori-neural loss, not severe enough to really call attention to itself in the day to day activities within a family but a real problem when she was faced with the intricacies of learning in a bustling second grade. At the moment this little girl's problem is still in the process of evaluation but one would suspect that the eventual plan will be something like this: 1. She will be fitted with a hearing aid. 2. She will be given some auditory training to help her to distinguish differences between sounds that she has never heard; 3. An attempt will be made to strengthen her vocabulary. Whether or not she will still need to repeat the second grade will, of course, depend on how quickly she learns to compensate for her loss.

Another child of 5 was referred originally about a year ago by another ear, nose and throat specialist because she had had a severe ear infection. He was concerned about the possibility of a resultant hearing loss. When she was tested, her SRT was about 40dB, in either ear. (See Fig. 6) It appeared to be a mixed loss with her bone conduction responses somewhat better than her air conduction. Her basic problem appeared to be sensori-neural with a middle ear overlay. She was in kindergarten and did not appear to be having too much of a problem hearing. The doctor continued to treat the infectious process causing the middle ear aspect of the problem. Recently she returned for further evaluation. The results were the same as when she was seen a year ago but now, in first grade, she was having difficulty keeping up. Her primary problem was reading. This child is not nearly as personable or as out-going as the first child. She comes from an area where more Spanish than English is spoken which, of course, tends to aggravate the problem. This child's family have different aspirations for her than that of the first child. They will be a bit slower about following recommendations for a hearing aid and subsequent auditory training.

Rudloff (3) has pointed out that children differ greatly in their readiness for learning to read. When they enter school they differ in almost every measurable way. Some are outgoing and eager to learn, others are not; they come from all sorts of homes, some stimulating, some not; some children

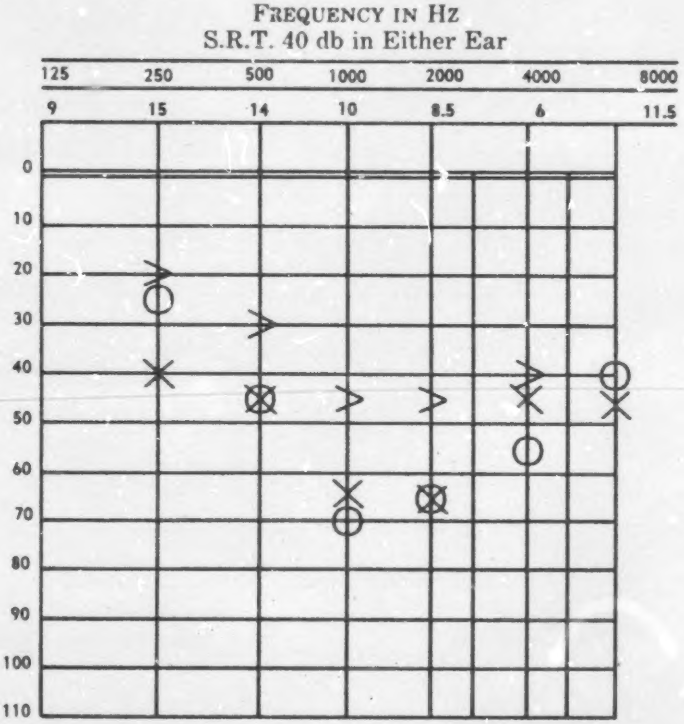

Fig. 6 — The audiogram of a six year old showing a mixed loss. Child is having problems in first grade.

are brighter than others while still others are out of school a large share of the time because of ill health. With such factors existing to a lesser or greater degree in all children, it does not seem realistic to assume that all of the problems encountered by a child with a hearing loss are due to sensory deprivation. The hard of hearing child, however, does bring a uniquely limited stock of impressions to the reading experience. His experience background must be augmented and he must learn to attach language meaning to the experiences so that at a later time he may associate them with the printed word.

In summary, it must be emphasized that children having problems in learning to read must, by all means, have their hearing evaluated. If a hearing loss of any consequence is found this may account at least for part of the problem. But it is wise to remember that with or without a hearing loss a child is uniquely himself—bright or dull; eager or apathetic and must be so regarded.

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Dyslexia and the Eye

Eugene M. Helveston

The eyes are an essential intermediary between the printed pages upon which are assembled the history and aspirations of our civilization; and the human brain which is the most magnificent, complex, and unique decoder that has ever been created. How significant is the intermediate role carried out by the eyes in the process of reading? On the surface, the answer to this question seems obvious. The eyes indeed play an essential role in the act of reading. Without our eyes which provide the gift of sight, the morning newspaper, school books, magazines, and the myriad of other printed materials would be lost to our use.

It seems logical to assume, therefore, that a relationship should also exist between various aspects of visual function, as well as degrees of visual malfunction, and reading ability. This assumption has been accepted blindly by some, exploited sometimes for profit by a few and denied by others. As a result of this diversity in opinion, when the educator is unsuccessful in teaching a child to read and asks the question, "Does this child see properly?" he gets answers which may be contradictory and therefore confusing. In an effort to reduce some of the confusion which surrounds the role of the eyes in reading, several eye functions will be described and the relationship or lack of relationship of these various functions to reading ability will be discussed.

First, however, it would be appropriate to define reading disability. The term now in vogue to describe reading disability is "dyslexia." Dyslexia is specifically defined as: the inability to read or obtain information from printed symbols in a normal way or in a way compatible with an individual's intelligence level. Dyslexia is not an "all or none phenomenon;" an individual may be minimally, profoundly, or moderately affected. This condition also may be primary and constitutional or secondary to physical or environmental factors. The primary form is probably hereditary, affecting males more often than females. The secondary form may be endogenous as the result of minimal brain damage or exogenous from poor teaching or cultural deprivation. The latter is not a true form of dyslexia, and may more appropriately be called reading retardation. Still other individuals may be inefficient readers from physical causes which may be related to the eyes.

The most significant aspect of true dyslexia in any of its forms is that the affected individual has a defect in the central decoding process which is integral in the act of reading. He sees objects, he feels objects, he smells objects, etc., but he is unable to process the word "cow" as seen on the printed page and cause it to mean the same thing as when he sees the four-legged animal in a farmer's field munching grass.

Dyslexia should not be confused with slow reading, poor reading, eye fatigue, etc. While certain individuals read less well and more slowly than others, they must not be labelled as dyslexic unless they meet the specific diagnostic criteria of the dyslexic. The diagnosis of dyslexia starts with a poor reader and then requires specialized testing which shows that this individual has a certain level of intelligence but that he cannot read commensurate with this level of intelligence. The dyslexic individual also makes reading errors which are characteristic in that he appears to "see" words improperly. The dyslexic makes "Koenig" "Koeing" but can't pick up the misspelling "solw." The ability to perform arithmetic problems well, while at the same time being a poor reader is a frequent but not constant occurrence in dyslexia. Poor spelling is almost always present in the dyslexic. Minor but characteristic neurological impairment is usually seen in dyslexia, but the subtlety of these findings demands an experienced examiner. It may be said that the diagnosis of dyslexia is an exercise of exclusion, therefore a team approach is essential.

Specific eye functions as they relate to reading ability and dyslexia will now be discussed.

Visual acuity: an individual cannot read ordinary print without sight, but he can read Braille. Even with poor sight of 20/200 or less, which is legal blindness, motivated individuals can read. They may do so more slowly than a normally sighted individual, but with comprehension at their level of intelligence. Visual acuity and dyslexia are not related.

Refractive error: The need for glasses when properly treated with spectacles or contact lenses has no significant effect on reading ability and is not related to dyslexia. Training lenses, empirically prescribed bifocals or weak plus or minus lenses have no beneficial effect on reading ability and may produce a harmful dependence if improperly prescribed.

Eye muscle imbalance: Crossing of the eyes is significant only when a latent in-turning or out-drifting of the eyes is present which causes serious eye fatigue and discomfort while reading. This eye fatigue can lead to poor reading performance and a lack of enthusiasm for reading. Correction of these conditions with surgery, lenses, prisms, or exercises, whichever is appropriate, can lead to improved reading performance. Eye muscle imbalance in any of its manifestations is unrelated to the decoding process and therefore is not related to true dyslexia.

Color vision: The ability to recognize and name most colors is unrelated to reading performance or dyslexia. Total absence of color vision, congenital achromatopsia, is on the other hand, a rare and serious eye defect which leads to legal blindness (20/200 vision). This is not to be confused with the mild red-green color defect that affects 8% of males and less than 1% of females.

Fusion ability: The ability to superimpose and blend the visual image from each eye, except as it relates to latent muscle imbalances, has no influence on reading ability or dyslexia.

Accommodation: This is the process of increasing the dioptric power of the eye as the distance of objects from the eye decreases. When this reflex is sluggish or hypoactive, difficulty in reading can occur. This condition occurs infrequently and is treated with specific eye drops or with bifocals. Bifocals which are prescribed empirically have no beneficial effect on reading ability and may, if worn for a long period, produce rather than help hypoaccommodation. Hypoaccommodation can cause slow reading but is not a cause of dyslexia.

Dominant eye: This is the sighting eye, or the eye preferred under monocular circumstances. It has been found to have no relationship to reading ability or dyslexia.

Controlling eye: This is the eye preferred under binocular conditions. It has no relationship to reading ability or dyslexia.

Pursuit movements: The ability of the eyes to follow a test object smoothly or to progress in smooth steps across a printed page has no causal relationship to poor reading. On the other hand, a poor reader often has jerky and frequent refixations while reading across a line or down a page. This is a result of rather than a cause of poor reading. No relationship between pursuit movements and dyslexia exists.

Perception: This rather elusive and multifactorial process takes place at higher cortical levels and takes into consideration many factors, not the least of which is experience. The eyes merely provide neural impulses to the brain. The brain in turn perceives and makes intellectual judgments with regard to the impulses provided. Dyslexia may be a type of imperception or misperception but the defect occurs centrally in the brain and is not caused by peripheral nervous system involvement, or eye malfunction.

Eye hand coordination: This relates to how the hand or body relates to and acts upon what is perceived by the brain. Clumsiness or poor body coordination has been treated extensively, at times even by individuals whose formal training and usual activities are ordinarily related to the eye. These practitioners have been known to instruct patients in such activities as drawing circles, walking on a balanceboard, following objects with their eyes, etc. A certain group has even instructed children in assuming certain positions during sleep in the hope that "neurological reorientation" will take place which will cause them to function in a more normal way upon awakening. These activities have no beneficial effect on the eyes, are not in the province of the eye doctor, have been shown by most experts to be useless anyway, and may even be harmful.

What then is the role of the eye physician in this problem of reading disability in general and dyslexia in particular? The answer is: He must care for the eyes in a carefully planned preventive program of visual and eye care, and when specific needs arise he must treat any disease or malfunction that occurs. To do this, vision should be tested beginning in the pre-school years (between the 3rd and 4th birthday) and glasses and other appropriate treatment should be prescribed only when needed. When they occur, eye muscle imbalances should be treated. But, while this is being done, the full armamentarium should be available to the doctor and to the patient. This includes, when necessary, the use of glasses, prisms, eye drops, exercises and in some cases surgery. The eye physician should in all ways possible cooperate with the educator, and assist as a member of an interdisciplinary team which includes such specialties as neurology, pediatrics, otorhinolaryngology, audiology, psychiatry, psychology, social work, and education. Finally the eye physician should protect the patient and his family from the frequently recurring, useless and, sometimes harmful fads promoted by those who would exploit the role of the eyes in reading for reasons of either ignorance or profit.

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The Claremont Reading Conference: Its Message and Educational Implications

*Peter L. Spencer**

Introduction

The Claremont Reading Conference series was initiated by a group of concerned teachers and administrators during the summer of 1932. Their purpose was to make a careful study of the true nature of reading-behavior and to try to determine ways and means for its more efficient development and application.

The discussions soon revealed considerable dissatisfaction and even disillusionment with the then prevailing ideas of the nature of the reading process, and with the resultant practices concerning its development and use. Sufficient interest was generated to lead to an arrangement for a continued study thruout the year and for a recurrent session of the group the following summer. Subsequent annual sessions have continued thereafter.

Alpha Iota Chapter of Pi Lambda Theta early joined with Claremont College in sponsorship of those sessions and in the preparation and issuance of a yearbook series reporting the major considerations of the conference sessions. Alpha Iota ceased its official sponsorship following the 1958 session. It has continued to participate in the sessions, however, devoting its attention to an emphasis upon children's literature.

From a very modest beginning the annual sessions have continued to attract an increasing clientele. It is now recognized historically as the oldest of the conferences concerned with reading and also as the conference which presents the most comprehensive and the most fundamental conception of the reading process and of its function in human behavior.

In 1946 Dr. William S. Gray, the then honored dean among the country's reading specialists, pointed out that "the annual reading conference at Claremont College is unique among the reading conferences in this country. It differs from most, if not all, in the breadth of its conception of reading which it consistently develops." He stated further, "The Claremont Reading Conference has a unique message and one of great significance in the education of boys and girls for efficient living." (1)

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* Founder and Director of the Claremont Reading Conference and Yearbook Editor, 1932-1958.

The Claremont Reading Conference Conception of Reading Behavior

The "unique message" cited by Dr. Gray was developed by the conference participants and has been consistently presented as the "continuing theme" of the conference series. It stated, "Reading is the process of making discriminative reactions with regard for any and all types of stimulation." Such a broad and inclusive conception of the nature of reading behavior is in sharp contrast with the narrow restrictive so-called "Common Sense Proposition" presented as the consensus of a group of "reading experts." (2)

That "Common Sense Proposition" states, "There are two major acts to be performed in the process of reading: (1) recognizing the printed word on the page, and (2) understanding and dealing with the meaning intended by the passage." According to that conception reading-behavior is restricted to sensing and responding to printed words on a page. Hence, contrary to the Claremont Conference conception which includes all types of sensory stimulation, reading-behavior as identified by that "consensus" is activated only by printed words affecting the visual sensory process or by the tactile sensory process in the instance of Braille printing. In other words, reading-behavior in the opinion of the experts cited as conceived as a highly specialized mode of behavior which is adapted for use solely with a particular type of stimulus and restricted to specified sensory processing.

There is no question but that printed words must be sensed, recognized, interpreted, and effectively dealt with if they are to serve the purpose for which they were produced. But, that is likewise the case for spoken words, gestures, and all other modes of expression which may be used in communication. The process of sensing, cognizing, and responding with regard for all such stimuli is basically the same. Hence, designating only one of those activities as reading-behavior is an arbitrary procedure.

Furthermore, words are merely symbols for ideas. They are not ideas in their own right. A basic source of ideas about things is direct experiences with the things. This indicates that there is a basic or primary form of reading-behavior which may not involve words or symbols of any kind. Reading symbols of ideas-about-things needs to recognized as a secondary or derived stage of reading the things directly and in their own right.

Reading-behavior: a human attribute

From this viewpoint, restrictive and disjunctive conceptions of reading behavior are psychologically untenable and educationally handicapping. They present human behavior as an aggregate of specialized behavior forms having little or no apparent relationship with each other. For example, the visual sensing and subsequent responding to printed words is termed "reading" whereas the aural sensing and responding to the spoken counterparts of such words is termed "auditing." Such terminology offers no clue as to the inherent relationship of these behavioral operations.

The Claremont Conference, on the other hand, treats human behavior holistically. All sensory stimulation activates reading-behavior and the Conference stresses the dynamic intrarelationships among the many forms of sensory and response behavior. As a matter of fact, it seems very unlikely that any sensory process operates solely upon a single type of sensory stimulation. Terminology such as visual-reading, aural reading, tactile reading, gustatory reading, olfactory reading; etc., tend to point out and to emphasize the intrinsic relationships of the various behavior concerns.

Reading is the educative process

The development of reading-behavior is an emergent process. It begins with simple intuitive reactions and becomes specialized and refined as the individual performs responsive behavior. In other words "we learn to do thru doing." When the sensory-perception processes are functioning reading is being performed. Hence, the educative process is primarily concerned with the development and refinement of reading-behavior. That one will read is assured by nature. BUT, WHAT one will read and HOW EFFECTIVELY the reading will be performed are major concerns for the educative process. Whenever sensory-perceptive awareness takes place reading occurs. Therefore such terminology as "non-reader," "pre-reading," "before we read" is actually misleading and educationally unsound.

The basic nature of reading-behavior

Based upon the idea that "reading is the process of making discriminative, i.e., adaptive, reactions with regard for any and all types of stimulation" four more or less distinct and sequential stages of a reading act are readily identified. They are, (1) a stimulus situation which is capable of activating sensory processing, (2) the *re*ceptive stage during which the stimulation takes place, (3) this is followed by a *per*ceptive stage during which the stimulation is given meaning and significance and an adaptive response is formulated and put into operation, and, (4) the stage of performance of the adaptive response behavior. Each of these stages presents many aspects for educational consideration and treatment.

Facilitation of reading-behavior

As previously pointed out, educational concern is with WHAT is read and with the EFFICIENCY of the reading performance. Since reading-behavior is initiated by means of sensory stimulation, it may be categorized according to the predominate sensory process affecting it. For example; visual-reading behavior is predominately dependent upon the sense of sight, aural-reading behavior is initiated by means of the sense of sound, gustatory and olfactory reading are respectively initiated by taste and odor stimuli, and kinesthetic-reading is activated by body movement and muscular tensions. There is a comparable form of reading-behavior associated with each of the sensory processes. However, it is important to recognize that it is very unlikely that any stimulus situation affects only one of the sensory processes. All stimulus situations have multisensory potentialities. Hence, selective control of stimuli is an important aspect of reading-behavior.

Stage one: the stimulus environment

Adaptive behavior is performed in response to a stimulus situation. Hence, in order to provoke a particular form of reading-behavior, concern for an appropriate control of the stimulus situation is needed. Such control may be accomplished by physically accentuating or depressing certain of the stimulus factors in the environment or by selective attention on the part of the reader. In the promotion of efficiency with reading-behavior those control procedures need careful consideration.

For example, in the case of visual-reading behavior light constitutes the stimulus medium. Hence, the quality and intensity of the light as well as its direction in relation to the objects of concern constitute important factors affecting visual-reading efficiency.

However, light per se is not the stimulus. By means of absorption of some aspects of the light and the reflection of some aspects objects within the visual environment are differentiated. That FIGURE VS GROUND relationship is a dynamic factor affecting visual stimulation. It has been extensively studied in relationship to the visual-reading of printed-words. The size and form of type as well as the contrast between the symbols and the paper on which they occur are recognized as important factors affecting legibility.

Likewise, in order to facilitate the visual aspects of adaptive responding, care needs to be taken to reduce potential interference from nonvisual stimulation. Control needs to be exercised over disturbing factors such as sounds, odors, bodily discomfort, or temperature.

Reading and properly caring for the environmental factors affecting reading behavior constitute important aspects of efficient reading-behavior. The Claremont Conference has consistently called attention to that phase of reading-behavior.

Stage Two: reception and transmission of stimulation

The environment exists whether or not an individual is aware of it. Instigating and provoking awareness is the function of the sensory receptors. Actually that is the initial stage of the reading process. Sensory reception is essential for reading-behavior to occur. Hence, the facilitation of sensory reception constitutes an important aspect in the promotion of efficiency with reading-behavior.

The popular conception that the sensory receptors are "the gateways to the mind" is erroneous and misleading. Actually nothing passes thru the sensory receptors. Their function is to transform the environmental stimulus agencies into neural impulses which are then transmitted to the central nervous system.

Apparently, the transforming functioning of the sensory receptors is automatic and, strangely enough, the impulses generated by the different receptor organs appear to be very similar in nature. However, the brain has the ability to distinguish between them and to give them identity and meaning. That is a major characteristic of stage three of the reading process.

The sensory receptor provisions may be categorized as "special" or "general" in nature. The special senses have receptors only in certain very limited positions within the body. For example, visual receptors occur only in the eye, and aural receptors occur only in the ear. The general sensory receptors are more widely distributed. For example, thermal sensory organs are generally distributed thruout the skin, kinesthetic sensory organs are located in the joints, muscles and tendons of the body.

Pursuant of the Claremont conception of reading-behavior there are important forms of adaptive responses with regard for each of the sensory processes. Hence, in order to facilitate efficient reading behavior, care needs to be directed toward providing efficient operation of the receptive provisions. This is an important but frequently neglected aspect of reading instruction.

For example, consider the case of visual reading. The visual receptive and transmitting mechanism is located at the rear of the eyeball. The portion of that area which is most functional for distinguishing forms, such as printed-words is approximately the size of the head of a common pin. Light, the visual stimulus agency, must enter the eyeball by way of the pupillary opening in the forefront of the eye and it must strike the proper receptive area at the rear. Hence, AIMING the eye so that the desired stimulus enters and falls upon the appropriate receptive area is extremely important. This is, of course, a muscular operation which is performed by means of the muscular system external to the eyeball.

Obviously, in order for the light stimulus effectively to affect the restricted sensory area of the visual receptor it must be modified and brought to proper focus on the receptor. The refracting or bending of the light stimulus is performed by elements of the fore part of the eyeball, an important member of which is the lens structure. That, again, is muscularly operated. The focusing operation is termed ACCOMMODATION.

The process of visual stimulation and reception is further complicated by the fact that normally two eyes are involved and they need to operate as a team. In order for that to take place the AIMING and ACCOMMODATIVE functionings of the respective eyes need to be COORDINATED. Muscular performance likewise constitutes an important factor in that operation.

The fact that muscular performance is essential for visual reception to be efficiently accomplished illustrates the interdependence of the sensory processes in reading-behavior. Learning WHAT to sense and HOW to perform the sensing efficiently constitute important aspects of reading development.

Another aspect concerned with sensory reception has to do with supplemental implementation of the stimulus operation. This is readily illustrated in the case of visual reception by the use of lenses to facilitate the accommodative and coordinative functioning of the eyes. Telescopes and microscopes as well as eyeglasses are used to extend and to implement the visual process.

While stage two consists merely in the initiation of the process of adaptive responding it presents many aspects which demand educational consideration and treatment. Providing a potential stimulus for reading-behavior can be futile unless adequate and proper provision is also made for its effective reception.

Stage three: perception—the essence of the reading process

The third of the sequential stages in adaptive behavior is the most complex. During that stage the central nervous system is the major functionary. As mentioned previously, the reader is equipped with a variety of sensory processes each of which is sending impulses to the brain. These impulses must be transformed into states of mental awareness and given meaningful status. The process of giving meaning to mental awareness involves the factors of memory, associative recall, as well as personal aspiration or purpose.

It is obvious that the perceptive process is, therefore, a very complex and involved one. In addition to the derivation of meaning for the multiplicity of sensory inputs, creative imagination must be brought into play so as to produce a probable suitable response to the situation being sensed.

Unlike the *re*ceptive stage which is concerned with immediate stimulation, the *per*ceptive stage must deal with the recall and utilization of past experiencing, and with adaptive responding which involves a future reference. All of these things must be accomplished by a brain which is an organic entity. Hence, there is need carefully to consider the organic condition and requirements of the brain as well as the nature of the sensory inputs. Malfunctioning of the brain seriously affects reading-behavior.

Malfunctioning of the brain may be due to some organic impairment or to a nutritional deficiency. Nutrition, in this instance, refers to an appealing or stimulating environment as well as to the more customary reference to diet. In either instance there is need to provide "FOOD FOR THOT."

A final aspect of this stage of the reading process consists in the formulation and projection of appropriate response behavior. This can be somewhat expedited by sensing clues bearing upon it which occur within the stimulus situation. Hence, an important aspect of developmental reading consists in identifying and in utilizing such clues. For example: the use of prefixes or suffixes modify the basic reference of word symbols. Smiles and sneers indicate personal attitudes. Clues to behavior are prevalent in every aspect of educational endeavor.

Stage four: performance of adaptive responding

The major response organs are the muscles, glands, and cortical neurons. Of these the ones most readily subject to control are the muscles. The process of learning HOW TO DIRECT and CONTROL muscular performance is a very important aspect of human development. Reading the nature and adequacy of one's response behavior constitutes an extremely important part of reading behavior. What one does in response to stimulation becomes associated meaningfully with these situations. This is the essence of the process of "learning thru doing." Hence, it is reasonable to state that kinesthesis is a prominent element in meaning.

The fact also that muscular adjustments form an important function in the operation of many of the sensory receptive processes as well as in the adaptive response behavior associated with sensory awareness illustrates the holistic nature of reading-behavior. For example, as previously mentioned, muscular performance is an extremely important factor in visual reception as well as in the response behavior performed with regard for that visual sensing. Customarily considerable attention has been directed toward the development of certain forms of muscular behavior, but surprisingly little concern has been given to the muscular aspects of efficient sensing. Since visual reading is normally a prominent part of the total reading-behavior, development of muscular efficiency in that regard needs to receive special attention. Studies of difficulties with the reading of printed words have disclosed serious deficiencies with the muscular aspects of visual sensing.

Action on the part of the brain may conceive of an effective behavioral response, BUT, learning HOW TO PERFORM that desired behavior is a function of stage four. Knowing WHAT NEEDS TO BE DONE is not synonymous with knowing HOW TO DO IT. There are many important educational aspects connected with stage four of the reading process.

The Claremont conception of reading-behavior: its educational implications

The narrow restrictive, so-called, "common-sense" conception of reading behavior constitutes a serious handicap for constructive educational procedures. Reading is thus identified as a very special type of behavior which is associated with a particular type of stimulus; viz., printed words on a page. Behavior in response to other types of stimulation is not considered to be reading. Intrarelationships between what is termed "reading-behavior" and "non-reading behavior" are apparently disregarded.

In contrast with that conception the Claremont Conference takes an holistic point of view. It emphasizes the process of giving meaning to sensory stimuli as being the very essence of reading-behavior. Any and all stimuli must be sensed, interpreted and given appropriate adaptive response. That is the reading process. Intrarelationships among various forms of reading-behavior are stressed.

The restrictive idea of reading-behavior centers upon the recognition of particular symbols for ideas. It does not include the full range of symbolic representation nor does it consider the most fruitful source for the ideas which are symbolized by means of printed words. It is essential to recognize that words are not ideas. They are a device for stimulating the recall of ideas. Too often stressing word recognition leads to situations described by Hamlet when he was asked "What are you reading?" His reply was "Words, words, words."

The broad conception of reading distinguishes between the reading of things directly and in their own right, which is termed PRIMARY READING, and the reading of symbols of ideas-about-things which is termed SECONDARY READING. Secondary reading deals with various clues, devices for stimulating the recall, and manipulation of ideas-about-things; hence it is dependent upon the existence of ideas which are most likely to result from the actual experiencing of and with things. Educational development needs to become disassociated with 'mere book learning.'

Under the restrictive conception reading is treated as a special form of behavior which must be introduced artificially. Terms, such as "before we read," "prereading," and "nonreader" are commonplace.

The Claremont conception of reading-behavior on the contrary treats reading as an inborn characteristic of human nature. Reading is as natural as digestion, respiration, or any other of the inborn functions of the human organism. Hence, there is no time when reading in some form does not occur and there is no such person as a "nonreader" if the sensory processes are operative. Reading development and refinement are emergent processes. They begin with inborn intuitive behavior and develop into specialized forms fitted to cope with situations which the reader experiences. Hence, reading development is an emergent, educing or drawing out procedure.

According to the narrow conception of reading-behavior only those who are instructing in the recognition and cluing functions of printed words are teachers of reading. Those who are particularly responsible for some other phase of behavior commonly use a title designating that area of concern. For example; such expressions as "I teach physical education. I am not a teacher of reading," or "My field of responsibility is mathematics. Someone else must teach the child to read," are commonly used. Such a disjunctive idea of reading development is rejected by those who accept the Claremont conception of reading-behavior. In contrast they believe that the primary concern of every teacher is the development of greater efficiency with reading-behavior on the part of their pupils. Educational development consists in learning effectively to read oneself, to read other people, and to read the things which affect human welfare. Every teacher shares a general responsibility with regard for developing abilities to read oneself, and other people, while at the same time there is a responsibility to develop abilities to read and to cope effectively with certain of the things that affect human behavior.

This, in general, constitutes the "unique message" of the Claremont Reading Conference. If and when educational practices can be released from the handicap of narrow disjunctive conceptions regarding human behavior, dynamic and fundamental changes will follow. Human behavior needs to be conceived holistically and the fundamental intrarelationships among differing aspects of that behavior need to be recognized and creatively utilized. READING IS THE PROCESS OF

MAKING DISCRIMINATIVE (adaptive) RESPONSES WITH REGARD FOR ANY AND ALL FORMS OF SENSORY STIMULATION. It is not a narrow restrictive phase of human behavior.

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